

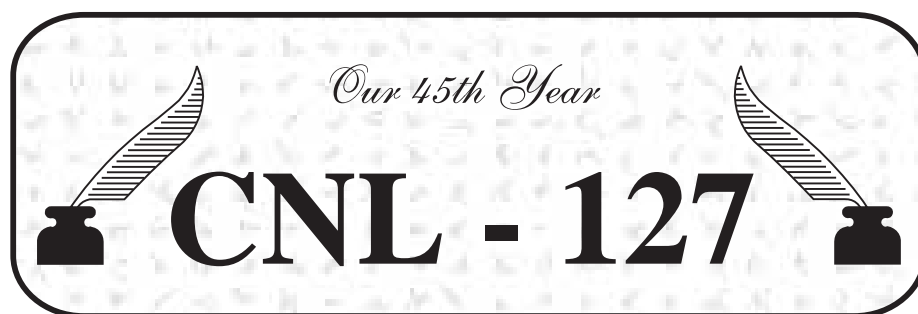
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It seems like a very long time since our previous issue. It's good to be back! If you recall, CNL-126 was a double issue, dated August/December 2004, and contained Dr. Louis Jordan's excellent study on the Lord Baltimore coinage and the early money of Maryland.

I would like to begin by announcing a CNL staff change. Michael Hodder, our longtime associate editor, has resigned and John Kraljevich has accepted the vacant position. I would like to thank Michael for his many contributions to CNL over the years and to welcome John to the staff. Although, a relatively young man, John's many accomplishments in the field of colonial numismatics is impressive. I am looking forward to work with him and to apply his expertise in the production of CNL. See sequential page 2779 for a biographical sketch of John which he wrote for us.

With great pride, I would like to announce that Dr. Philip Mossman's recent paper titled "Money of the 14th Colony: Nova Scotia (1711 – 1783)" has won the 2003 Fred Bowman Numismatic Research Award. This award is presented annually by the Canadian Numismatic Research Society to the author of the most outstanding article or book on a Canadian numismatic subject. The award is named after the late Fred Bowman, one of Canada's greatest numismatists. Phil's paper appeared in CNL-124, sequential pages 2529 through 2593. It explored Nova Scotia's currency in conjunction with the history and economic development of that colony, and its relationship with the thirteen colonies that formed the United States, and with New France. The CNL staff would like to congratulate Phil, who serves as our contributing editor, on the receipt of this award. A

facsimile of the award is shown on sequential page 2780.

We are starting this issue by reprinting a review that was published in *The British Numismatic Journal* concerning Dr. Brian Danforth's recent paper in CNL on the St. Patrick coinage. The reviewer, Harrington Manville, agrees with Brian's historical analysis of when and by whom the St. Patrick coppers were struck but disagrees with his claim that they were struck with a collar that marked the edges during striking. The reviewer also takes exception to references that the gold and silver pieces were intended for circulation.

Brian responded to the review with a paper titled "St. Patrick Coinage Revisited." This paper follows the review and presents in-depth counter arguments to Manville's assertions. It all makes for very fascinating reading as we begin to understand this enigmatic coinage which was imported into early New Jersey and played a role in our colonial monetary system.

On a more personal note, Brian has been working in the country of Thailand. When the earthquake and resulting tsunami devastated that part of our world there was much concern within the numismatic community for Brian's well-being. We were happy to learn, however, that Brian came through the event unscathed. As that area struggles to recover from this horrific disaster we wish him the best.

Next, in this issue, is a paper updating the known varieties of Virginia halfpence. It is authored by three enthusiasts of the series: Dr. Roger A. Moore, Alan Anthony, and Eric P. Newman. Approximately five decades ago, Eric researched and authored the standard reference on Virginia halfpence. His work was so complete that little has been written since on the series. A few new Virginia halfpenny dies have been discovered, however, since Eric's work. This paper reports on these new discoveries and provides a new die interlock chart of all the known varieties today.

In CNL-108, the August 1998 issue, Dr. Philip Mossman provided the most comprehensive study of the Stepney Hoard to date. His study

wasn't the final word, however, on this subject and the debate continues. Our last paper in this issue discusses this subject again. Authored by associate editor Dr. John Kleeberg, his paper publishes several interesting posts from the Internet with added commentary. Following the posts, John provides a *comparanda* of other copper coin hoards and then presents an interesting method of determining the number of varieties in a coinage based upon those found in a hoard. John ends the paper by studying the weight of the coins found in the Stepney Hoard in an effort to determine if it was a savings or emergency hoard.

Finally, I would like to congratulate Robert Vlack on the publication of his book titled *An Illustrated Catalogue of the French Billon Coinage in the Americas*. Published by the Colonial Coin Collectors Club (C4), this comprehensive hard-cover book (x + 157 pp.) is the result of a 30-year study. If you have yet to obtain a copy, visit the C4 website at www.colonialcoins.org for ordering information. If you would like to know more about the book before making the purchase, an excellent, in-depth review has been written by Oliver D. Hoover. Oliver's review was published in the winter 2004 issue of the *ANS Magazine*, volume 3, number 3, pages 62-64.

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Biographical Sketch

John J. Kraljevich, Jr.

I began collecting around 1983 or 1984 when I was just in grade school. I had already been a history buff for some time, perhaps unsurprising for someone who came of age in Chester County, Pennsylvania, the site of a good bit of fighting in the fall of 1777 and still a prime locale for studying eighteenth century American architecture. By the time I went to my first coin show in 1987, I had fallen in love with early American coins: my only take-home prize that day was a well-worn 1724 Wood's Hibernia halfpenny. I joined EAC in 1989 and through that fraternity became more involved in studying, writing, and exhibiting. Meeting Dave Bowers and Walter Breen at the 1989 ANA Convention in Pittsburgh was an eye-opening turning point, and for the remainder of my youth I planned for a career in numismatics. Throughout the early 1990s I became active in a number of organizations and pursued my colonial coin collection with as much vigor as a high school student could muster, especially French colonial coins, overstruck colonials, and contemporary counterfeits of various series. When C4 was founded, I became its first recording secretary, a position I yielded when I enrolled at the University of Virginia. About the same time, the nascent auction firm of McCawley-Grellman hired me as a cataloguer in their auctions.

At the University of Virginia I pursued majors in history and religious studies, focusing on early American history and monotheistic religions in the Roman Empire. Until after my graduation in the spring of 1999, an internship at Monticello became full-time employment as an interpreter, discussing slavery in colonial America with the diverse crowds that streamed through Jefferson's home and plantation.

After college I worked full time as a radio broadcaster while still pursuing coins as a hobby and instructing courses at the annual ANA Summer Seminar. In the fall of 2000 I was hired as a cataloguer by Bowers and Merena, and shortly thereafter became lead cataloguer on the Lucien LaRiviere collection of early American medals. Before long I began cataloguing all early American copper coins at Bowers and Merena and, in March 2003, I was among the founding staff of American Numismatic Rarities, where I currently serve as Director of Numismatic Research.

I am a member of the ANA and ANS, a board member of MCA and EAC, and an elected member of the Rittenhouse Society. I currently author the "Early American Money" column in ANA's *Numismatist* magazine, and teach the ANA's annual Summer Seminar class on early American coins (most recently with Ken Bressett and Colonial Williamsburg's Erik Goldstein). Twice the ANS has included my work in their COAC presentations, with papers highlighting the life and coinage of John Chalmers and the medal collection of Thomas Jefferson. I reside in historic Annapolis, Maryland with a house full of books on early American history and numismatics and a very fluffy cat named Sally, after Jefferson's most famous female companion.

I'm very much looking forward to being a part of CNL's long and distinguished history!



2003 Fred Bowman Numismatic Research Award
presented to Dr. Philip Mossman for his research paper titled
"Money of the 14th Colony: Nova Scotia (1711 - 1783)."

REVIEW ARTICLE

We are pleased to reprint a review article that appeared in *The British Numismatic Journal*, volume 72 concerning Dr. Brian Danforth's groundbreaking paper on the St. Patrick coinage. *Reprinted with permission from Harrington Manville and the BNS Council.*

'ST PATRICK COINAGE', BY BRIAN J. DANFORTH, IN *THE COLONIAL NEWSLETTER*,
THE AMERICAN NUMISMATIC SOCIETY, NEW YORK, 2002

In CNL-121,¹ Dr Danforth presented convincing evidence that the semi-official seventeenth century Irish issue of halfpennies and farthings, known as the 'St Patrick's Coinage' (although some have suggested that perhaps they were intended to circulate as pennies and halfpence), were struck by Pierre Blondeau on order from Lord-Lieutenant Ormonde between 1667 and 1669. His paper effectively answers the principal questions the author poses: Who was involved in their minting? When were these coins struck? What was the historical context in which these coins were conceived and uttered? However, it misinterprets some of the available evidence and makes an unwarranted assumption about the gold and silver strikings.

Although a few earlier writers have speculated that the St Patrick coins might have been produced during the Civil War in the 1640s, numismatic opinion now agrees that they were struck after the Restoration of 1660. During Charles II's early years, Sir Thomas Armstrong had been granted a patent to strike farthings for Ireland during twenty-one years. Armstrong's copper coins were struck in 1660-1, but Ormonde opposed these small pieces and few reached circulation. Nevertheless, production of a new, heavier issue could not begin until the 'Armstrong Patent' was seen to have failed to solve the problem of a lack of small change in that country. A *terminus ante quem* for the St Patrick coppers' circulation was established when two of the small-size pieces were among the 273 coins recovered from the yacht *Mary*, which sank on 24 March 1675 on a voyage from Dublin.

The Players

Pierre Blondeau, an engineer at the Paris mint, came to England in 1649. After Cromwell's death Blondeau returned to Paris in 1659, only to be recalled in 1661, after the Restoration of 1660. In 1662, Blondeau obtained 'a warrant appointing him a free denizen, in order to enable him to better govern his workmen (at the Mint, and gave him leave) to exercise any trade within the kingdom', which Danforth interprets as giving him license to undertake projects outside the mint, including making farthing tokens.² In April 1664 Blondeau travelled to Poland to obtain screw presses, and these could be used to stamp private tokens.

James Butler, Earl, Marquess and Duke of Ormonde (1610-1688), served three terms as Lord-Lieutenant of Ireland: 1644-9, 1661-9, and 1677-84. It was during the second period that the St Patrick pieces must have been struck. In 1667, Ormonde had obtained a 'king's letter' from Charles II granting him sole authority to suppress all tokens in Ireland that did not have his approval. 'Such an instrument was commonly followed by a proclamation pertaining to a new

1. Vol. 42, No. 3, December 2002, 2371-402 (henceforth Danforth).

2. Ibid., p. 2378.

coinage. This is a strong indication that Ormond (*sic*) had secured at least preliminary support to issue copper money.’³

In that same year, Ormonde had requested approval from London to mint £30,000 in farthings.⁴ ‘His motives were directed toward satisfying two main objectives. First was the desire to reestablish a Dublin Mint that would enable the Kingdom to achieve better control over its finances. The second objective was to pay the troops at a time of fiscal crisis when soldiers were needed to quell what was perceived as mounting unrest in the countryside. It is the convergence of these two objectives on Ormond’s agenda in the 1667-9 era that fostered the creation of a semi-official coinage.’⁵

Once Ormonde had received the ‘king’s letter’ of approval, it may be assumed that he would have moved quickly to begin the production process by authorizing the manufacture of ‘petitioning’ St Patrick coppers while awaiting final formal approval. The coins were urgently needed to pay the army stationed in Ireland – some of whom had not been paid in seven months and were in a restive, even mutinous, mood.

When Blondeau came to England, he brought his secret process of marking coin edges. Danforth claims that the coins were struck in a one-step process within a collar that marked the edges at the same time as impressing the obverse and reverse designs and not by the parallel-bar method.⁶ This thesis is inconsistent with an examination of some two dozen specimens, both copper and silver, which reveals that the St Patrick coins were struck on Blondeau’s screw-presses and were indeed marked by a parallel-bar edging machine. The lettering shows bifurcated (‘fishtailed’) bases and metal flow of the beading towards the rims and thus could not have been struck in a collar. The edges show overlapping “graining – a frequent occurrence with parallel-bar edge-marking.

In his paper, Danforth refers several times to silver shillings, and towards the end he summarizes his belief that coins other than coppers were meant to circulate:

A final aspect of the St Patrick coinage that basically confirms their semi-official status is that this series was produced in four denominations, which is unlike any other token series for the era. The gold coin is listed as unique. The silver coin is referred to as a shilling.⁷

These two sentences do not really support any of his arguments for an issue of the copper coins and should not have been included. There are five principal problems with this claim:

1. No denomination is posited for the gold striking, nor is there any indication of why a gold coin would have been much use in Ireland in the late 1660s. True, the Lord Justices of Ireland had produced the so-called ‘Inchiquin Money’ gold double-pistoles and pistoles in 1646. These were not true coins with a stated value, however, and were meant to be exchanged for whatever their bullion weight, marked in pennyweights and grains, would bring under troublesome wartime conditions when large amounts of supplies had to be procured for the armies. If intended for circulation, surely the small size St Patrick’s piece in gold would have had some indication of a fixed

3. Ibid., p. 2389.

4. £30,000 worth of farthings would amount to 28,800,000 coins. Of course halfpennies were produced also, although apparently in fewer numbers than the farthings. Even if the entire £30,000 worth were not struck, many millions of farthings would have been produced.

5. Danforth, P. 2385.

6. Ibid., p. 2376, *et seq.*

7. Ibid., p. 2396.

weight or even denomination; otherwise it was just a piece of bullion. Much more likely, it was a 'favor piece' – perhaps a gift to help assure approval of the project.

2. Although Danforth only states that the small-size silver pieces have been referred to as shillings, it might have been better not to dignify this obviously false speculation. Why obviously? In the first place, as with the gold striking, there is no indication of value and no surviving contemporary record to identify them as circulating coins. Thirty years after the St Patrick's appeared, the diarist John Evelyn (1620-1706) included the smaller silver piece in his book on British medals.⁸

A short generation later, the indefatigable collector Ralph Thoresby (1658-1725) also described his piece as a medal:

481. An Irish (Silver) Medal, with a crowned King playing upon a Harp, as K. David is represented, over which the Crown of England, FLOREAT.REX. Rev. St Patrick, or a mitred Bishop, with a double Cross, QUIESCAT.PLEBES.(d). These were also originally of Copper, and were current, I presume, for Half-pence and Farthings, for they are of different Dimensions.⁹

Writing at a few years later, Bishop William Nicolson (1655-1727) follows Evelyn and Thoresby in calling them medals:

There is also a silver Irish Medal, with a Crown'd King playing upon the Harp, as King David is represented; over which is the Crown of England with this Inscription FLOREAT REX. On the Reverse, St Patrick (or some other mitred Bishop) with a Crosier in his Hand inscrib'd QUIESCAT.PLEBS. These are still common in Copper and Brass; and being of different Dimensions are Current for Half-pence and Farthings.¹⁰

Another generation after Nicolson, James Simon (originally Jaques Simon de Lessiard, of Chatelleraud, Poitou province, western France; died in Dublin, 8 January 1757), the 'First Irish Numismatist', thought that the small size silver pieces were struck in 1642, at which time they might have been intended as shillings.

There are still preserved, by the curious, some few silver pieces, with the same impressions and inscriptions of these copper pieces: it is thought that they were struck as medals, but for my part I think they were struck upon the same occasion, and intended by the Kilkenny-assembly to pass for shillings.¹¹

This speculation can be shown to be wrong on both counts. One genuine small-size silver piece has been weighed at 108.1 grains, with a specific gravity of 10.495. An English shilling of the time was struck at approximately 92.9 grains .925 fine silver and although the weights of the copper pieces vary considerably (farthings 77-110 grains; half-pennies normally 142-9 grains),¹² silver (and gold) coins of a fixed denomination would have adhered much more closely to uniform weights.

8. John Evelyn, *Numismata. A Discourse of Medals, Antient and Modern* (London, 1697), p. 133, pl. lxiv.

9. Ralph Thoresby, *Ducatus Leodiensis – Musæum Thoresbyanum* (Leeds, 1715), pp. 82-3.

10. William (Nicolson), Lord Bishop of Derry, *The Irish Historical Library* (Dublin, 1724), p. 170.

11. James Simon, *An Essay towards an Historical Account of Irish Coins, and the Currency of Foreign monies in Ireland, with an Appendix containing Several Statutes, Proclamations, Patents, Acts of State and letters relating to the same* (Dublin, 1749), p. 49.

12. Anthony Dowle and Patrick Finn, *The Guide Book to the Coinage of Ireland* (London, 1969), p. 67.

3. And even if the small-size silver pieces had been intended as shillings, how does one explain the large-size specimen in silver (which Danforth ignores)? The only record of this is in a paper published by Dr Aquilla Smith (1806-90) in 1854:

I happen to be the possessor of one of the silver pieces alluded to by Harris. It is the identical coin which belonged to Mr Putland, and from a careful comparison of it with one of the larger copper Patricks, it is evident that it was struck from the same die as the copper coin. The existence of this piece, which as far as I know is unique, is of considerable importance respecting the question before us, for if the smaller pieces were issued as shillings, we must conclude that the larger pieces were intended to pass at some higher denomination.

This piece is somewhat worn, and weighs 176½ grains. Of three of the smaller pieces of silver in my cabinet, one, which is in the highest state of preservation, weighs 123 grains; the other two are somewhat worn, and weigh, respectively, 108 and 107 grains. Now taking the weight of one of the smaller pieces which is worn, to that of the larger piece which is in similar condition, it is as 1 to 1.64, consequently, it cannot be believed that they were intended to pass for shillings and six-pences.

... (T)he conclusion I draw from the evidence now adduced is, that they are “model,” or proof pieces from the dies of the copper coins, which is supported by the existence of a proof in lead in my cabinet, from the dies of the smaller copper coin. I may also add, that proofs in silver of the Irish half-pence of Charles the Second, date 1680 and 1681, and of William the Third, 1696, as well as of the different kinds of James the Second’s gun-money, are not uncommon.¹³

Unfortunately this large-size St Patrick piece in silver has disappeared. Smith’s collection went to the Royal Irish Academy.¹⁴ The R.I.A. coins were later transferred to the National Museum of Ireland, but during a visit to the Museum in October 2001 Dr Smith’s piece could not be located. No other specimen of the large-size St Patrick’s in silver has been recorded.

Silver strikings exist of the ‘Armstrong’ patent Irish farthing of 1660-1 and the Dublin halfpenny of 1679, as well as all denominations of the ‘Gunmoney’ coins, and it should be added that since Dr Smith’s paper, one each of silver strikings of the Irish halfpence for James II and William & Mary have been located. The weights of five silver strikings of Irish halfpence between Charles II and William III vary from 70.2 grains to 127.3 grains, from which we may conclude that weights were relatively unimportant in what are now called *proofs* and were likely used as presentation ‘favor pieces’, meant to sweeten the approval process and help to assure continuation of the minting franchises.

4. The small-size silver pieces were struck from the same designs as the coppers, in at least several examples from the identical dies. This should never occur for two circulation pieces of different metals, when it would be only too easy to silverplate a copper to pass for the higher denomination.

5. The clinching evidence that the small-size silver pieces were not intended to be circulating coins, whether shillings or any other denomination, is the specific gravity of 10.495—essentially pure silver, which wears quickly and is too soft for coinage. Pure silver was sometimes employed for medals and proof or presentation strikings but not for issued coins.

13. Aquilla Smith, ‘On the Copper Coin commonly called St. Patrick’s’, *Proceedings and Transactions of the Kilkenny and Southeastern Archaeological Society* (vol. 3, 1854/5), pp. 71-2; reprint, pp. 5-6.

14. G. Coffey, *Catalogue of Irish Coins in the Collection of the Royal Irish Academy* (Dublin, 1895), p. 103; second edition (Dublin, 1911), p. 89.

Danforth's paper concludes:

The St. Patrick coins were the finest coppers that had ever been produced for Ireland up to that time. They were a tribute to the technology employed in their manufacture and to the men who participated in their production. It was a reflection of their determination to produce a coinage that would meet the needs of ordinary citizens in their every day transactions, giving them a degree of fair value unlike token issued by others.¹⁵

Although Danforth's paper is a convincing contribution on when and by whom the St Patrick coppers were struck, there are problems with his edging theory and it would have been better if he had not included references to the gold and silver pieces as coins intended for circulation.

HARRINGTON E. MANVILLE

Acknowledgements: The author wishes to express his thanks to Eric P. Newman and Peter P. Gaspar who examined multiple specimens of the St. Patrick coinage and advised on the implications of their observations.

15. Danforth, p. 2397.

St. Patrick Coinage Revisited

by

Brian J. Danforth, Ph.D.; Slingerlands, NY

In the December 2002 issue of *The Colonial Newsletter*, I introduced the heretofore undiscovered origins of the St. Patrick series based on original research, using source documents from the seventeenth century. Three significant premises were outlined in that presentation:

- a) the person responsible for striking the coins was Peter Blondeau¹ who served at the London Tower Mint as the official in charge of producing the new milled coins ordered by Charles II to protect the nation's money from counterfeiters and to denote the restoration of the monarch that occurred in 1660;
- b) the coins were uttered as a non-regal issue in the format of petitioning tokens of the era by Lord Ormond,² Lord-Lieutenant of Ireland, as a means both to pay the army during a turbulent period in Irish history and to create a new coinage for the Kingdom, enjoying a semi-official status due to Ormond's support; and
- c) the failure of London officials to grant Ormond's request for £30,000 in farthings to meet the needs of the army while at the same time receiving a 'king's letter' to suppress undesirable coins, a common precursor to receiving royal permission to utter a new coinage, resulted in Ormond authorizing the minting of the St. Patrick series between 1667 and 1669 during the closing years of his administration.

In presenting my research findings on the St. Patrick series, I introduced evidence on the process by which Blondeau manufactured these coins, which is expanded herein due to new observations and research. The general methods employed by Blondeau are as follows: first, with newly designed screw presses, he was able to exert additional pressure on a planchet, thereby forcing more metal to flow to a coin's perimeter; and second, as an anti-counterfeiting measure, Blondeau developed a new edging process. Using a thin metal insert that he placed against the inner wall of a collar that contained the flow of metal, he was able to produce lettering or graining on the coin's edge, a method he also employed on a limited edition of coins for Commonwealth authorities in the 1650s and on Charles II bullion coins. The hallmark of Blondeau's invention was his ability to strike simultaneously all three sides of a planchet, a process existing technology of the 1650s and 1660s could not replicate. This eliminated the need for the more costly two-step process of using a screw press to stamp the obverse and reverse and parallel bars to inscribe or grain the edge of coins. Blondeau described his newly designed screw presses as follows:

...the Engines wherewith the brims are marked...are so big and heavie (*sic*), being between 1 and 2000 l. weight...they were put to mark all the pieces at one stroke, as in the said *Blondeau's* invention...it is impossible to doe (*sic*) it without strong and heavie Engines...The monie (*sic*) coined merely at the Mill can bee (*sic*) made with very small Engines, but that which is proposed by the said Blondeau, cannot bee coined without a great many big and heavie Engines....³

1. Blondeau was French and his given name was Pierre, which was later anglicized to Peter as can be noted in many seventeenth century English records.

2. The seventeenth century spelling of his lordship's name was Ormonde that was later modified to Ormond.

3. Peter Blondeau, *The Humble Representation of Peter Blondeau as a Warning, Touching several disorders happening by Monie ill-favoredly Coined* (London, 1651), pp. 3-5. The concept of employing slightly heavier screw presses to achieve a better strike on a coin was first introduced at the London Tower Mint by Nicholas Briot who had worked at the Paris Mint in modernizing its operations as had Blondeau.

This one-step striking process was further described by Blondeau as having the following benefits wherein he stated that his invention and methods were a secret:

...a new Invention, not yet practiced in any State of the World; the which will prevent counterfeiting, casting, washing and clipping...and will cost no more than the ordinarie (*sic*) unequal Coyn (*sic*), which is used...As to the way of remedying those inconveniences...by the way propounded by the said Blondeau, by marking the coyn, not only on both the flat sides, but also Upon the thickness or the edges...that it cannot bee (*sic*) so counterfeited. Whereupon...they could never finde (*sic*) out the said new Invention for Coyning....⁴

Prior to the publication of my article, numismatists paid little attention to the edges of St. Patrick coins that provide the clue in determining how and when the series was minted. As is the intent of any researcher in presenting his findings, it is hoped that new premises will stimulate additional research and further discussion on the topic under review as has occurred in this instance. As a result, several numismatists have examined coins in their personal collection, discovering the existence of several new edging varieties within the series, offering opinions as to how these coins were manufactured.

Leo Shane in a recent article in *The Colonial Newsletter* presented two examples of St. Patrick farthings that he believes were minted in a two-step process due to the existence of a circumferential line on the edge of the coins.⁵ This feature also appears on some Charles II shillings that Blondeau made in 1663. Unfortunately, how this circumferential line was constructed on the regal and St. Patrick coins is unknown, leaving us to wonder if this feature was part of the design of the metal insert used in Blondeau's one-step process in manufacturing most of these coins or an indication of a limited application of a two-step process. As for the St. Patrick series, it has been speculated that since the circumferential line often oscillates as it travels along the edge of the coin it may be an indication of being struck using parallel bars. For now, this conclusion is unsubstantiated although it provides additional support that Blondeau was the minter of both series. In addition to Shane, other members of the Colonial Coin Collectors Club examined their St. Patrick coins and presented me with their discoveries, including a few additional farthings with a circumferential line on its edge and a farthing whose edge exhibits an overlap in the graining that is a clear indication of the use of parallel bars in its production. Further, after I had the opportunity to examine the farthings in the John Griffee St. Patrick Collection that were placed at auction during the C4 Convention in Boston in November of 2003, I noted an additional farthing with a circumferential line on its edge. The insight that some St. Patrick coins were struck by an alternative procedure to the one-step process increases our understanding of the series and challenges researchers to look for new clues that may exist in seventeenth century sources that can assist us in understanding the complexities involved in producing this series. Due to extensive wear on most St. Patrick coins, one must take extra caution when viewing edges since an error in proper identification can easily occur.

Harrington E. Manville in *The British Numismatic Journal* reviewed my *CNL* article and took the issue of how the edges on St. Patrick coins were constructed to a more general hypothesis. While agreeing with the three major premises of my presentation as to the involvement of Blondeau and Ormond in the late 1660s in producing these coins, and the reason for their production, he took exception to my premise that St. Patrick coins were struck according to Blondeau's newly invented one-step process. Manville asserted that the edges for the entire St. Patrick series were constructed in a two-step process whereby planchets were struck and edged at different times with the graining produced by running coins through two grooved parallel bars. Manville based his

4. Peter Blondeau, *A Most Humble Memorandum* (London, 1652).

5. Leo Shane, "St. Patrick Coinage Discovery" *The Colonial Newsletter* (August, 2003), p. 2494.

assertion on several specimens whose edges exhibit the telltale signs of an overlap in the graining that is indicative of an edge made using parallel bars as already referenced above. It is significant to note that the use of parallel bars to mark the edge of coins was a minting process in common use decades prior to Blondeau's involvement in making Charles II and St. Patrick coins.

In my *CNL* presentation, as supporting evidence of Blondeau's one-step process, I presented the premise that the St. Patrick coins were manufactured with the use of a collar, which was a well known process at the time. This concept is consistent with my premise that Blondeau basically produced his coins in a one-step process where a metal insert was placed along the inner wall of the collar to create the grooved edge on his coins. Manville took exception to this premise, presenting a single farthing that he asserts exhibits bifurcation or fishtailed lettering in its legend, claiming this one coin proves that the entire series was made without a collar. Since numismatists are still at the beginning stage of understanding this series, a variety may exist within the St. Patrick series where some coins were made without a collar. However, Manville's sole coin is not convincing evidence that can be applied to the entire series. The general lack of bifurcation on St. Patrick coins can be observed in illustrations in the Chris McCawley and Bob Grellman 2003 auction catalogue of Griffie's farthings.

Contrary to Manville's assertion, there exists within the series recent examples presented to me of error coins that clearly exemplify the use of a collar in the manufacturing process. One extraordinary specimen resulted from striking a planchet weighing more than the normal range for the series. As the excess metal flowed to the perimeter to create the grooved edge, the metal was constrained by the collar and forced upward, creating an edge with a thin vertical extension that rose well above the surface of the coin, which would not have occurred if a collar had not been used to stop the flow of metal.⁶ Further, it is important to note that there are many examples of English and European coins that exhibit what could be misinterpreted as having fishtailed lettering. In those instances, what appears to be bifurcation was rather an intentional byproduct of stylistically designed punches. This is clearly evident on coins where straight and fishtailed base letter punches were used next to each other on a coin. In the American colonial series, William Wood's Hibernia coppers that are known to have been struck with the use of a collar have many examples of such combined features. My comments herein, however, should not be taken to infer that bifurcation cannot appear on coins struck with the use of a collar since this feature can result when excessive pressure is exerted on a planchet. Screw presses of the era were driven by hand and as a result we see an array of different strikes on coins produced prior to the invention of more exacting machine driven presses. Fishtailed lettering can also result when undersized planchets are struck by a screw press, producing clear signs of metal flowing to a coin's perimeter. Given the era's failure to consistently produce planchets of the same size, the appearance of coins can vary. Manville, therefore, is in error when he asserted that his sole example of a farthing with fishtailed lettering proves that a collar was not used in manufacturing the St. Patrick series.

Exhibiting additional variations within the series, it is known that some St. Patrick coins have a plain edge. There are at least three varieties of a halfpenny (Breen 202 type) described as having a plain edge, which has been known for a number of years as referenced by Walter Breen in his *Encyclopedia of U.S. and Colonial Coins*.⁷ In the sale of the Griffie Collection of St. Patrick farthings, lot #75 also had a plain edge that has not been previously noted. According to Manville's assertion, such coins would be examples of a failure to process planchets through parallel bars as well as being manufactured without a collar. Taking into account Blondeau's technology, plain edged coins are the result of a failure to place a grooved metal insert along the inner wall of the

6. An example was presented to me at the C4 Convention by a member and noted American colonial numismatist.

7. Walter Breen, *Encyclopedia of U.S. and Colonial Coins* (New York, 1988), p. 35.

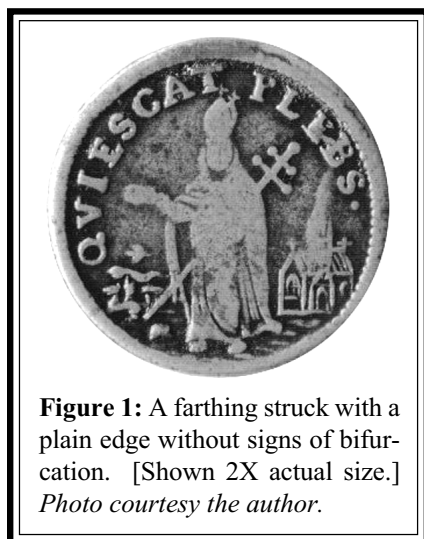


Figure 1: A farthing struck with a plain edge without signs of bifurcation. [Shown 2X actual size.]
Photo courtesy the author.

collar. In contrast to Manville's statement in regard to bifurcation on his sole sample, there is no evidence of bifurcation on lot # 75 as noted in Figure 1.⁸

St. Patrick coins manufactured without the use of a grooved metal insert are in my opinion minting errors within the series since their production varied from normal minting practices. Coppers that exhibit signs of being prepared in a two-step process with the use of parallel bars also represent a procedural process that differs from common practices, but these coins in my opinion are varieties within the series rather than errors since it appears that their production was deliberately intended as a means to accelerate the production of the coins Blondeau made for Ormond.⁹ The explanation for the latter can be gleaned from circumstances surrounding the production of English milled coins in the early 1660s that Blondeau struck for Charles II. In the early phase of

producing regal coins, an overlap in the graining on the edge of some coins is noticeable, which indicates the use of parallel bars. There is a valid reason for this occurrence. Since Blondeau possessed the sole right to produce all English coins for Charles II, he was responsible for employing both a one-step and a two-step manufacturing process. It is believed that the reason for initially employing both methods was the need to produce the new coins as quickly as possible in order to replace outdated hammer struck coins that had been counterfeited in significant quantities and posed a threat to the nation's supply of money as well as the need to replace Commonwealth coins that were despised by the king. In similar fashion, it can be readily assumed that in the rush to meet Ormond's need for coins as quickly as possible due to the pressing needs of the army, Blondeau employed, at least in the early phase of production, more than one minting method, which would explain edging varieties within the series that exhibit a two-step process in their production.

What I have attempted to do through the use of available seventeenth century documents that pertain to Blondeau's description of his one-step invention, along with events of the era, is create the historical context in which the St. Patrick coins were conceived and uttered. Any debate on the edging process generally employed by Blondeau in making St. Patrick coins comes down to which side of the argument one wishes to follow:

- either Blondeau was correct in his assertion that he basically employed a new one-step process in making milled coins with exceptions constituting varieties and errors within the series,
- or the coins were minted contrary to Blondeau's articulated position through the use of a two-step process that employed parallel bars to construct graining on the edges, being a procedure well known to English moneyers for many years prior to Blondeau's arrival in London.

8. This coin is now part of the author's collection of St. Patrick coins.

9. For a recent definition on what constitutes an error coin, see: Philip L. Mossman, "Error Coins of Pre-Federal America" *The Colonial Newsletter* (April, 2004), pp. 2602-4.

My premise is that Blondeau correctly depicted how he generally made the edge on milled coins and is substantiated by the following historical facts:

- 1) Blondeau repeatedly stated during the 1650s that he had invented a new one-step process for striking milled coins, being a position he consistently adhered to while at the London Tower Mint until his death in 1672;
- 2) Blondeau's detractors at the London Tower Mint in the 1650s claimed that he had not invented a new process but rather used existing technology to produce the prototype coins that he prepared for Commonwealth authorities as evidence of the advantages of his new invention, yet these mint employees failed to replicate Blondeau's work during the competitive trials of that decade, which underscores the fact that Blondeau had in fact created a new minting process;
- 3) Blondeau was recalled to the London Tower Mint in 1661 to oversee the production of Charles II milled coins specifically because his new methods of producing coins were deemed to have the best chance of preventing the counterfeiting of regal coins, thereby securing the integrity of the nation's supply of money;
- 4) as a condition for his return to London and allowing his new minting technology to dominate the production process for Charles II coinage, Blondeau demanded that he be granted a patent to protect his new methods and that no one other than he could produce coins using his technology for which he would receive payment according to the quantity of coins produced;
- 5) the royal patent granted to Blondeau was for a period of 21 years for bullion coins and 14 years for farthings and other base metal coins and honored by the Crown during his lifetime and to the benefit of his heirs during the remaining term of the patent;
- 6) Blondeau stated that his one-step process for edging coins was economical, which was a crucial factor in minting low valued coins such as coppers whereas a two-step process would have increased production costs and rendered less feasible Ormond's desire for coins;
- 7) Blondeau requested and received authority to protect his new technology from being used by others: "wherewith the brims are marked, may be kept secret among few men, who shall be sworn to keep it, and not to reveal it to anie [any]...",¹⁰ which would have been unnecessary if he were merely employing parallel bars since that process was already known among English moneyers;
- 8) the secret of Blondeau's methods for striking coins was a well established fact and remained so until 1679 when it was obtained by French officials and forwarded to the Paris Mint where it was modified and became the basis for making French coins in the 1680s, which supports the premise that the methods employed by Blondeau were truly innovative; and
- 9) it is not until the 1680s, after the expiration of Blondeau's patent, that other moneyers made coins with grooved edges.

Given the circumstances outlined above, it is inconceivable that officials at the London Tower Mint along with royal authorities would grant concessions, monetary compensation and a patent to Blondeau¹¹ if he were merely using the commonly known procedure of parallel bars rather than employing a new technology for striking milled coins. In satisfying Ormond's need for coins, his lordship had to turn to the professional moneyers of London if he were to succeed in getting his new coins. Further, if Ormond wanted to protect his envisioned Irish coinage from counterfeiters, his only alternative was to secure Blondeau's involvement in order to obtain grooved edged coins that were deemed to be the best that technology could provide against counterfeiting, which was an endemic problem in Ireland that called into question the intrinsic value of most coins then

10. Blondeau, *The Humble Representation of Peter Blondeau...*, *op. cit.*, pp. 3-5.

11. Blondeau's compensation for producing regal bullion coins was set at 12d/lb. for gold coins and 3d/lb. for silver coins.

circulating in the Kingdom. The need for coins and the necessity of producing them economically with a grooved edge could only be achieved by using the technology invented by Blondeau. Since his invention was protected by a royal patent, Ormond had to secure Blondeau's involvement. Fortunately for Ormond, Blondeau was already in the business of making privately issued coppers as evidenced by his personal possession of screw presses. Undoubtedly, Blondeau was participating in the common practice of the time whereby mint employees produced unofficial coppers for towns and businesses since the Crown in the 1660s failed to make small change that was needed for ordinary daily transactions.

The historical evidence outlined above along with current observations of the edge markings on St. Patrick coins underscores my premise that the coins were generally produced by the one-step process invented by Blondeau. In order to accept Manville's contrary contention, numismatists would have to consent to the unusual assumption that the exceptions constitute the rule as to how the series was produced, leaving unanswered how the majority of the coins in this series exhibiting edging features, consistent with Blondeau's one-step process, were manufactured. Rather, it is more reasonable to view the exceptions as either a byproduct of the rush to produce coins as quickly as possible or procedural differences that created varieties and errors that one would expect to find in a series that has an inordinate number of die varieties as illustrated in Griffie's study of obverse and reverse designs exhibited in the sale of his farthings. As additional research is undertaken, new observations on the edges on these coins will appear as can be expected since the handmade metal inserts that were employed in making the grooved edges would also produce differences, including a recently observed farthing with a double grooved edge.

In another part of Manville's review, he discounted as "unwarranted assumptions" my limited references to the bullion pieces in the St. Patrick series, especially the silver coins that I contend circulated as a medium of exchange as part of Ormond's new national coinage for Ireland. Surprisingly, Manville stated as one of his reasons gold and silver coins were not made for circulation is because Ireland lacked a need for such coins in the 1660s. However, the historical records of the period clearly show that the Kingdom was saddled with an array of heavily worn English bullion coins that were clipped, outdated, counterfeited and otherwise deemed to lack true value, which was a great concern to Irish officials and merchants. This deplorable situation was made worse by an array of Irish bullion coins of questionable value that dated from various periods of conflict that dominated events in the Kingdom during the first half of the century. As a potential solution to this state of affairs, Commonwealth officials sent Blondeau to Ireland in the mid-1650s to explore the feasibility of reestablishing the Dublin Mint. Since no coppers were produced for general circulation during the Commonwealth era,¹² it can be reasonably assumed that the intent was to include silver pieces as part of any intended production series. Confirming the need in Ireland for silver coins was a proposal submitted to officials circa 1660, requesting permission to mint £100,000 in coins of various denominations, including silver pieces up to three pence.¹³ Later, when the London Tower Mint began its production of new English bullion coins, it was well known that production would not be sufficient to satisfy initially England's monetary needs let alone Ireland's. Since Ormond was intent on creating a new national supply of money, the production of bullion coins for circulation would have been very much in keeping with his mission. Unfortunately, with only one genuine known example of a gold coin, we are left with speculation if this coin was part of a set of circulating pieces or if it was a presentation piece made to obtain support for a future utterance of gold coins. However, the existence of numerous silver St. Patrick

12. A prototype farthing was made in the 1650s. While it was not sanctioned as a circulating coin by Commonwealth authorities, it was produced in sufficient quantity to allow limited circulation.

13. Colm Gallagher, "The Irish Copper Coinage 1660-1700; Notes towards a history" *Numismatic Society of Ireland* (Occasional Papers, No. 26, 1983), p. 36.

coins presents a different set of circumstances and underscores my premise that they were intended to circulate.

Manville, continuing his assertion that St. Patrick bullion coins were not made to circulate, stated that the lack of any indication of value on the coins substantiated his assertion that they were 'favor pieces' to be given to officials to gain approval for making coppers. However, this is contrary to the fact that Charles II silver shillings, halfcrowns and crowns of the 1660s also lacked any indication of value. At that time, the size of the coin along with its metal content was deemed sufficient to indicate its denomination: the English shilling has a diameter varying between 25 and 26 mm while the St. Patrick silver pieces have approximately the same diameter, varying between 24 and 25 mm; the English halfcrown between 33 and 34 mm; and the crown between 38 and 40 mm. It was not until the minting of the English silver twopence in 1668 followed by the penny and threepence in 1670 that an indication of value was stamped on the obverse of any Charles II silver coins. A similar situation existed for English gold coins of the 1660s where the size of the coin and its metal content constituted its denomination.¹⁴

Manville, furthering his assertion that St. Patrick silver pieces were not intended for circulation, referenced such circa 1700 numismatists as John Evelyn, Ralph Thoresby and Bishop William Nicolson who labeled these pieces as medals. However, their conclusion was based on their lack of familiarity with silver pieces in the series and as such mitigates their assessment. Further, if Manville wishes to use the conflicting commentary made by these numismatists to assert that the silver pieces were medals, then James Simon's statement, Ireland's first numismatist and a near contemporary to the above writers, that the coins were intended "to pass for shillings"¹⁵ should be a valid counterpoint to his argument. The early writers on this topic also presented conflicting theories as to when the coins were minted, offering dates that ranged from 1642 to some unknown period during the reign of Charles II (1660-1685). Nicolson went so far as to state erroneously that the coins were struck by papists although St. Patrick's attire conforms to the Church of England.¹⁶ It is important to note the general lack of knowledge among these early numismatists as illustrated by Stephen M. Leake's statement in 1726: "There are other Copper Pieces, which have passed for Halfpence and Farthings in Ireland; but for what Purpose they were coin'd (*sic*), and by whom, is uncertain...."¹⁷

Manville concluded his assertion that the silver pieces were not meant to circulate by offering Dr. Aquilla Smith's statement of 1854 of the existence of a unique silver piece weighing 176½ grains. Being significantly larger than an ordinary silver St. Patrick coin, Manville offered it as evidence that all silver pieces were non-circulating coins, which is a far-reaching conclusion. By contrast, Breen listed the coin as a possible florin or two shilling piece.¹⁸ In other series, there are limited examples of excessively overweight specimens. For example, in the Rosa Americana coinage where differing types are well documented, Breen lists three coins of excessive weight and all are deemed to be possibly unique as is Smith's specimen: Breen 85 type is described as a 'piedfort'

14. See: *Coincraft's 2000 Standard Catalogue of English and UK Coins 1066 to Date* (London, 1999). This book is a standard reference that illustrates English coins minted in this era. It should be noted that among English silver pieces of the 1660s, the edges varied. The shilling had vertical grooved graining while the other two silver denominations had basically identical inscriptions in Latin. A similar situation existed for English gold coins where the edge of the five guineas had an inscribed edge while the other gold coins had a vertical grooved edge.

15. James Simon, *Simon's Essay on Irish Coins and Currency of Foreign Monies in Ireland* (Dublin: 2nd edition, 1810), p. 48.

16. Stephen M. Leake, *An Historical Account of English Money* (London: 2nd edition, 1745), p. 339.

17. *Ibid.*, p. 338. The book was first published in 1726, placing it historically in context with numismatists referenced by Manville.

18. Breen, *op. cit.*, p.35.

twopence, Breen 86 type is described as 'jumbo piedfort' twopence and Breen 125 type is described as a 'jumbo piedfort' penny.¹⁹ Yet, no numismatist would claim that such specimens are an indication that Rosa Americana coins were non-circulating pieces. The significance of Smith's overweight silver coin, therefore, is limited, in my opinion, to the classification of a piedfort and can be possibly described further as a presentation piece since Breen's description of it as a possible florin or two shilling coin would have been a very unusual denomination for the era and as such would have hampered its acceptability, being contrary to Ormond's objectives.

Currently, many numismatists contend the silver coins were shillings and Manville presented no original research to disprove this premise although his observation of the variance in weight among these pieces and the unusual weight disparity between regal English shillings and the putative St. Patrick silver shillings of the era underscores the need for more research on the topic. When investigating this issue, one must keep in mind three factors. First, there is a significant weight variance among St. Patrick farthings and to a lesser degree among the halfpence. Second, there was a standard weight variance of five percent among English shillings of the era although the figure for St. Patrick shillings is greater. Finally, there was a difference of about 5.6 percent in the exchange rate between English and Irish halfpence produced between 1660 and 1689²⁰ that no doubt affected the weight of bullion coins.

As to the original value ascribed to St. Patrick coppers, numismatists do not entirely agree — for a detailed discussion on this topic, see Philip L. Mossman's commentary in *Money of the American Colonies and Confederation*.²¹ While numismatists commonly refer to the coppers as farthings and halfpence, their weight differential, being less than double, raises some questions in regard to this assumption. What is known in regard to the coppers is that they circulated in Ireland in the late 1600s and the early 1700s as farthings and halfpence in spite of any weight inconsistency. To the ordinary citizen using these coppers, a different size was enough to allow these coins to so circulate. Unfortunately, we have no known record concerning the circulation of silver pieces although a difference in metal content would have enabled these coins to circulate as bullion pieces, especially in light of Ireland's otherwise acute shortage of such coins. At this juncture, numismatists are confined by the limited availability of known historical records.

Leaving aside the issue of the intended denomination of the silver coins, we are left with the following information that underlines my premise that St. Patrick silver coins were made to circulate, which is contrary to Manville's position that such a conclusion is merely "false speculation" on my part:

- i) the use of the term medals by eighteenth century British numismatists in regard to the St. Patrick series is a misnomer employed by writers who had little knowledge of their existence, as when Simon stated: "They are still preserved by the curious, some few silver pieces..."²²
- ii) the surviving silver coins almost always exhibit considerable wear, which is a clear indication that the pieces circulated as a medium of exchange;
- iii) existence of silver pieces exhibiting a weak strike,²³ as noted in Figure 2 below, certainly do not conform to the practice of making a limited number of carefully produced medals or presentation pieces and is more consistent with a larger production of coins intended for general circulation;

19. *Ibid.*, pp. 23-24, 26.

20. Philip L. Mossman, *Money of the American Colonies and Confederation* (New York, 1993), p. 126.

21. *Ibid.*, pp. 124-30.

22. Simon, *op. cit.*, p. 48.

23. The silver piece, part of the author's collection, exhibits a weak strike that caused the design to fade on one side of the coin. The piece also exhibits wear consistent with coins placed into circulation.

iv) there are a number of known varieties for the silver coins such as Breen 207 type that is listed as a Nimbus and Breen 210 type that is listed as having at least five varieties,²⁴ constituting a potential mintage that greatly exceeds the need to produce a limited supply of presentation pieces for British officials and is indicative of coins intended for circulation;

v) the counterfeiting concern raised by Manville wherein similar dies were used to make both the farthings and the silver pieces and is mentioned by him as an indication that the silver pieces were not intended to circulate is mitigated by Blondeau's anti-counterfeiting grooved edge that was beyond the technical ability of counterfeiters to replicate given the simpler tools at their disposal; and

vi) unlike the 1700s, modern numismatists are aware of the existence of a quantity of silver pieces whose surviving numbers and different varieties greatly exceed what would be expected of coins intended as presentation pieces, which is a clear indication that these coins were part of a general series for circulation.

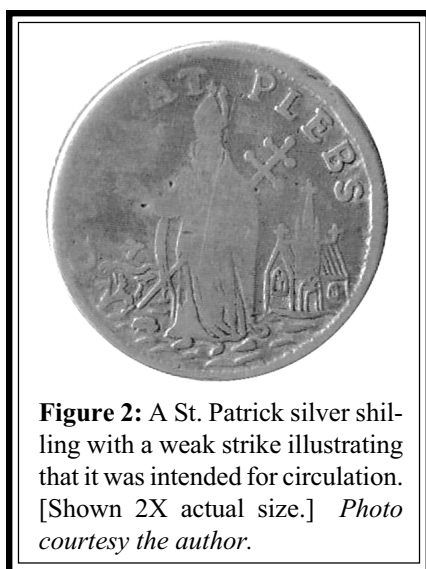


Figure 2: A St. Patrick silver shilling with a weak strike illustrating that it was intended for circulation. [Shown 2X actual size.] Photo courtesy the author.

The matter of survivability of St. Patrick silver pieces is an important consideration. In examining the same issue in regard to William Wood's Hibernia coinage, it is estimated that 50 specimens of the silver farthing size coins that were struck as presentation pieces are known to exist.²⁵ Considering the current extensive inventory of Wood's Irish farthings, his silver pieces comprise an insignificant number of coins. This stands in sharp contrast to the St. Patrick series where existing silver pieces have a much higher comparative survival ratio. Although both series have about the same number of varieties in total,²⁶ which is an indication that the mintage for both series is about the same, the older St. Patrick series has an overall smaller number of surviving coins as can be expected since fewer coins survive as a series ages. Yet, there is a larger comparative number of surviving silver coins in the St. Patrick series, which is an unusual occurrence unless the silver pieces were part of a circulating medium of exchange and not struck as only presentation pieces.

Another consideration in this comparison between the two series is the condition of the silver coins. Wood's silver farthings generally exhibit little wear, are mainly MS-50s and MS-60s, often have a glossy silvery surface as would be expected of coins that were intended to be presentation pieces to be given to members of the royal court and other officials in support of efforts to produce coins for Ireland, and are frequently noted by numismatists as proofs and prototypes. For example, in the sale of the Norweb Collection of Wood's Hibernia coinage, the silver farthings are described as having "Brilliant, prooflike surfaces" and "original silver-gray and pale iridescent blue toning" with additional proofs noted in the Picker, Robinson and Roper Collections.²⁷ This stands

24. Breen, *op. cit.*, p. 35.

25. Breen's initial estimate of 30 pieces is increased herein due to more recent discoveries of Wood's silver farthing size presentation pieces, including a new acquisition from England of a long-hidden lot of seven silver specimens by a noted American colonial numismatist who discussed his discovery with me. Syd Martin estimates the current census as 50 surviving silver farthing-size pieces. Syd Martin, personal communication, June 3, 2004.

26. The number of varieties in each series is based on several personal discussions with colonial numismatists interested in St. Patrick and Wood's Hibernia coinage.

27. See Bowers and Merena's catalogue on the sale of the Norweb Collection that pertains to the Hibernia series, p. 248.

in sharp contrast to descriptions of St. Patrick silver coins that commonly exhibit wear and lack a silvery or prooflike surface, which is an indication of their use as circulating coins. According to Syd Martin, a noted expert on varieties in the Wood's Hibernia series, there are only five known varieties of Wood's farthing-size silver presentation pieces: Breen 171 type dated 1723, Breen 173 type dated 1723 with three varieties that includes one from William Wood's estate that is listed as a proof, and Breen 176 type dated 1724.²⁸ The number of varieties for St. Patrick silver pieces is listed by Breen as six although the actual estimate is potentially higher and awaits further study.

As a result of the above observations, and the absence of any documentary evidence to the contrary, I consider the existence of gold and silver coins to be evidence of two salient points. First is the general numismatic assumption that any production of non-regal high quality bullion coins in the 1660s, such as the coins in question, is indicative of the participation of London's professional moneyers in their manufacture, giving added support to Blondeau's involvement. Second is my premise that the production of bullion coins for the series, basically the silver pieces, is a clear indication of Ormond's intent to create a new national coinage for Ireland that was in acute need of its own supply of money as well as a new coin design whose features would hinder counterfeiters. Obviously, given the general consensus among numismatists that only one genuine St. Patrick gold coin is known to exist, any assumption in regard to its significance has to be guarded in light of such a small sample. However, the existence of many silver coins underscores their involvement as circulating pieces.

Our knowledge of the St. Patrick series is just starting to expand. My research on the history of these coins created a basic working historical framework and as such is subject to modifications as new research into seventeenth century documents unearths additional information, which is always the case when new premises are presented for consideration. The publication of my article has already stimulated commentary such as that made by Shane and others whose keen observations provide new insights into the methods employed in manufacturing these coins. Griffie's forthcoming book on obverse and reverse die varieties will greatly assist numismatic researchers as has already occurred with the sale of Griffie's collection of farthings at the C4 Convention in 2003. The future sale of Griffie's halfpence and any sale of silver coins will likewise increase our knowledge.

While not definitive, Manville raised some interesting questions that call for further research. Of note in this regard was his reference to the St. Patrick gold coin as a non-circulating coin, stating that such a coin was more likely a presentation piece. But, Manville's assertion that the silver pieces were also non-circulating coins is an assumption that is not convincing in light of evidence to the contrary along with his failure to substantiate his statement with historical research. However, his comment on weight discrepancies among these coins is a matter worthy of further investigation. Manville's discussion on the exceedingly overweight silver coin that was part of Smith's nineteenth century collection is a point well taken as it probably was a presentation piece. In general, given the number and condition of the surviving silver pieces in this series, there is firm ground on which to state that these coins were made for circulation. To reject this assumption based upon such matters as the specific gravity of a single coin as Manville has done by calling it "clinching evidence" is an overreaching conclusion although a future study on the purity of silver in the St. Patrick coins might prove helpful. Finally, Manville underscored insightfully the weight discrepancy between English and St. Patrick shillings, which is an issue that calls for more research.

28. Syd Martin, personal communication, June 3 and 18, 2004. Martin is currently finalizing a comprehensive study on the obverse and reverse varieties for the William Wood's Hibernia series. Of note among the silver farthing-size pieces, he has discovered a coin that cannot be paired with any known copper farthing.

I am pleased to see the interest generated by my article on St. Patrick coinage. As in any research project, there is never an endpoint but rather an ongoing process, which in regard to these coins already spans more that 300 years of commentary. Hopefully, more original research will be conducted and additional observations made to enrich our understanding of the important role the series played in the American colonial monetary system.

**Virginia Halfpence Variety Update
with
Revised Die Interlock Chart
by
Roger A. Moore, M.D.; Moorestown, NJ
Alan Anthony; Leesburg, VA
Eric P. Newman; St. Louis, MO**

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Introduction

Although authorization for coinage by the Virginia colony was provided by the British Crown in the original Virginia Charter of April 10, 1606,¹ actual minting of coins did not occur until 1773. The multiple reasons for the delay in initiating the minting of a Virginia coinage, and its introduction into American colonial circulation, is a study of colonial bureaucracy and is described in detail by Eric P. Newman in his research on Virginia colonial coinage.¹ In essence, due to increasing pressure from Virginia tradesmen and citizens for the need of copper coins to conduct business and trade, the Virginia House of Burgesses on December 20, 1769, passed an Act allowing the treasurer, Robert Carter Nicholas, to purchase 2,500 pounds sterling worth of copper money for Virginia. Mr. Nicholas enlisted the aid of John Norton & Sons of London and Virginia to see to the details of the requested coinage. However, minting did not begin promptly, as further details concerning the coinage were worked out, including the weight of the new copper coinage at 60 coins per pound avoirdupois (116.7 grains per coin). In 1772, the final design for the coinage was agreed upon and application was made to the Royal Mint to undertake the coinage. The design of the coin, as described by Hickcox,² was on the "obverse, the head of George III ...; reverse a shield in quarters, containing respectively, the arms of England, Scotland, Ireland and the Electoral Dominions." On March 22, 1773, the mint finally recommended to the Crown that the coinage be struck, and on May 20, 1773, the Crown by royal warrant authorized that up to 25 tons of coins be minted. By August 1, 1773, the minting had still not commenced, since the dies were in the process of being made; but soon after that date, minting proceeded with the production of five tons of Virginia halfpence (672,000 coins). They arrived in Virginia on February 14, 1774, but bureaucracy once again intervened and the coins were not released into circulation until March 1775—some 50 days prior to the start of the American Revolution. The coins circulated to a limited extent, though many may have been diverted to the melting furnaces to supply copper for the war. The continued discovery of these coins by metal detectors [reports exist from New York,³ New Jersey,⁴ Virginia,⁵ Maryland,⁶ Pennsylvania,⁷ Tennessee,⁸ South Carolina,⁹ North Carolina,⁹ and Delaware⁹], as well as during archeological excavations [particularly around Williamsburg, Virginia where they were first distributed and where 40 Virginia halfpence had been found by 1956⁸ and over 60 more since then¹⁰], would indicate that some circulation throughout the American colonies and states did occur. A newspaper column on August 20, 1901, in the *Evening Capitol* of Annapolis, Maryland¹¹ describes a skull found at an old burial ground there, with a 1773 colonial Virginia halfpenny in each eye socket, presumably to keep the eyes of the deceased closed.

Dies and Minting

An in-depth evaluation of the Royal Mint records by Graham P. Dyer and Peter P. Gaspar¹² has provided the important information that 40 Virginia obverse dies and 30 reverse dies were produced by the Royal Mint for production of the Virginia coinage. The obverses can be readily divided into two groups by the presence or absence of a period (or stop) following GEORGIVS in

Endnotes start on sequential page 2804.

the legend. Similarly, the reverses can be readily divided into three groups based on the presence of six, seven, or eight harp strings in the shield design. Dyer and Gaspar published an image of an obverse matrix, which still remains at the Royal Mint Museum, showing no legends – only the central head of King George III.¹² An obverse punch that also still exists, similarly lacks any legend elements. A reverse piece, which the records of the Royal Mint list as a matrix, rather than a die, contains a full legend and a harp with nine strings. There is not full understanding as to what that reverse piece actually is,^{13, 14} but the authors, as well as Dyer and Gaspar, all agree that it is more die-like than matrix-like. A reverse punch also exists, which shows only the shield and crown without legends and a number of elements missing from the shield, including the harp strings, the two lions over each other, the three lions over each other, and the decorations surrounding the rearing lion. How the numerous dies were utilized and in what order is not known, but active investigation into possible die emission sequences is presently being conducted by the authors. William N. Veach in his *The Generations Newsletter*¹⁵ theorized that the minting sequence of the Virginia coins was in the order of the number of harp strings in the shield. He considered the pattern 6-stringed harp reverse used to make the rare large planchet 1-A variety to have been minted in June 1773 and samples were sent to Virginia on July 31, 1773, with Captain Barron on one of John Norton's ships. The remainder of the minting did not commence until after August 1, 1773, when the smaller sized planchet cutter, required for the Virginia coinage, was delivered. William N. Veach theorized,

... during July, 1773, while the Mintmaster (*sic*) was awaiting the late arrival of the small planchet cutter ordered specifically to produce the Virginia copper Halfpenny, the die maker went ahead and produced the remaining number of Obverse and 7-string harp Reverse dies that he must have felt were going to be adequate to finish the job, as provided in the King's Warrant.

Veach continued,

...production began approximately in early August. However, as the month went by and die problems resulted in low mintage levels for many 7-string harp Reverse sets, it became necessary to create additional dies, including 8-string Reverses, in late August, 1773. These dies were utilized on into September, 1773, when the 9-string harp reverse was created and was ready, but never used to mint a single coin. Instead the Mint master decided to reuse a Reverse that had been retired early on and it struck enough coinage to complete the entire contracted 5 tons.

Though Veach's theory has no sustaining evidence in practice or actuality, it has an internal consistency that may be appealing. An alternative theoretical explanation for the different number of harp strings is that each die sinker would often identify his work with some small difference in the dies that he made. The use of a different number of harp strings would be one way to create this distinction in a subtle manner.¹³ Of interest, the St. Patrick halfpence, which are thought to have been produced a century earlier,¹⁶ are also found with a different number of strings in the harps of different varieties. Possibly a differentiation in the obverses could have been made with the absence or presence of a period after GEORGIVS, though this would presuppose that only two die makers were involved. It is thought that Richard Yeo cut most of the dies, possibly assisted by Thomas Pingo. However, which dies should be ascribed to which die cutter is unknown at this time. Whatever the actual situation, Veach's argument for a returned usage of an earlier retired die would explain an oddity in the hereafter provided die interlock chart – the use of the obverse 5 with both a 6-harp string reverse B and an 8-harp string reverse Z. One question which would need to be answered, if the increasing harp string number is found to be related to the minting sequence, is whether the obverse 5 or the reverse B was the die that was brought back into service after its initial usage. In the die interlock chart (Table 1), the presumption is that the 5-B die pairing was first, with the 5 die reused at a later date to produce the 5-Z pairing. In spite of uncertainty as to the real reason for the different numbers of harp strings, there is no question of the

Table 1 is located on sequential page 2806.

consistency in the coinage struck by the Royal Mint. James C. Spilman's paper concerning the weight distribution of the Fugio cents also provides us with an important comparison with the Virginia coinage.¹⁷ What was shown in this study, which evaluated the weights of 32 mint state examples of Virginia coinage, was an average weight of 115.74 grains, as compared with the authorized weight of 116.7 grains. In addition, the standard deviation was only 5.49. This argues for a high level of consistency in the rolling of copper sheet and the planchet punching process. Another observation is that few of the Virginia die varieties show progressive die deterioration. In part this is due to the high standards of the Royal Mint in the early retirement of dies.^{13, 17, 19} However, a few examples do exist of Virginia coinage showing progressive die deterioration (obverses 4, 5, 10, 24 and 27, as well as reverses N, P and Z). In addition the varieties, 20-N, 24-K, and 25-M, are known to exit with clashed dies



Figure 1: Obverse 28 discovered by Robert Vlack as a "with period" variety not described by Newman. Obverse 28 is paired with reverse N. [Shown 2X actual size.] *Photograph provided courtesy of HeritageCoins.com.*



Figure 2: Obverse 29 discovered by Mike Ringo as a "with period" variety not described by Newman. Obverse 29 is paired with reverse N. [Shown 2X actual size.] *Photograph provided courtesy of McCawley and Grellman Auctions.*

New Dies since Newman

Since the article by Eric P. Newman in 1956¹ and his update on newly discovered die varieties in 1962,¹⁹ little has been written about Virginia coinage. However, a number of new obverse die varieties have been discovered.^{20, 21} In addition, a number of possible new die varieties have been reported, but on reexamination they have not been substantiated.^{22, 23, 24} However, a recent auction sale included the combination of both a newly discovered obverse and a newly discovered reverse die.²⁵

As to the "with period" obverse, two new dies are now added to the Newman group. The first was discovered by Robert Vlack and appeared in the March 1976 sale of his Virginia coins – one of the most complete sales of a series of attributed Virginia coins.²⁰ Lot # 108 in this sale was a "with period" new obverse called 28 by Vlack, which was paired with a reverse N (see Figure 1). The obverse 28 is very similar to the obverse 27 with key differences being the positioning of the period after the "X" in REX slightly closer to the curl of hair and the positioning of the tip of the wreath closer to the "S" in GEORGIVS than to the first "I" in III.

The second new "with period" die was added by Mike Ringo and appeared in the 1998 C-4 auction catalog as lot # 91, and described as an "unlisted variety"²¹ (see Figure 2). The obverse is a new die and is very similar to the obverse 21, while the reverse – an N – is the same 7-harp string



Figure 3: When auctioned, this coin was described as a new “no period” variety; 14-E. However, the plated reverse was really a reverse D and, on close inspection, the alleged obverse 14 is actually an early die state of obverse 15. The authors feel it is inappropriate to call this a new die variety. [Shown 2X actual size.] *Photograph provided courtesy of McCawley and Grellman Auctions.*

variety which was paired with the other new “with period” obverse variety previously described. Since the sequence of “with period” obverses stopped with 28, it is logical to designate this new obverse as 29. This has been done in the die interlock chart (see Table 1).

Previously, a “no period” obverse had been described as a new variety. First described and plated in the 59th sale by New Netherlands in June of 1967 as lot # 1060,²² and more recently sold in the 1996 C-4 auction as lot # 179,²⁶ a “no period” variety called 14-E was plated (see Figure 3). However, on close inspection of the particulars of obverse 14, a striking similarity with obverse 15 is noted. In addition, based on the photographs in the auction catalog, it is apparent that the E reverse was actually a misattributed reverse D. Each of the authors have personally inspected examples of the variety 15-D while one of us performed a direct comparison of a 14-D with a 15-D. Inspection of both coins has provided the evidence to definitely say that these two coins are simply different die states of each other. The obverse 15 is frequently found with die “chips” on the chin, as well as a “chip” found very low after the

“S” in GEORGIVS. The “chip” following the S has been used in the past, as an indicator that the obverse 15 is a “with period” variety. The die “chip” is actually a small die break and can be observed very faintly in the same position on obverse 14. The obverse 14 seems merely to be an earlier (less damaged) die state of the obverse 15, and both obverses should be designated 15-D. Also, based on these observations, the 15 would be considered a “no period” variety. The authors plan to study obverse “14” (early die state 15) and obverse 15 in greater detail concerning how the differences occurred and how these different die states should be designated.

The most recent “no period” obverse was sold in the January 2004 Heritage Auction, # 342, as lot # 5003.²⁵ The obverse is similar to obverse 15 but the “S” in GEORGIVS is placed closer to the hair (see Figure 4). Since the last “no period” obverse was called 15,¹⁹ it is logical that this new obverse be designated “16.” Therefore, this new obverse variety is referenced by the designation of “16” in the die chart. Of interest, this coin also has the first new reverse described since Eric P. Newman’s studies and has a harp with eight strings. All the alphabet between D and T (with the exception of E, I and L) is presently being used to describe the seven harp string reverses. In addition, the alphabet between V and Z is already utilized to describe various 8-harp string varieties. Therefore, the new 8-harp string reverse could be named utilizing one of the unused letters that are better associated with the seven harp string varieties or the unused U,²⁷ or be assigned a non-capital letter designation, or be designated with a double letter. Based on communication with James C. Spilman and other members of the e-group,²⁴ the authors elected to use the “U” designation for this new 8-harp string reverse.²⁸ A second example of a high grade 16-U has also recently come to light.²⁹

The described coins are the only unlisted Virginia die varieties known to the authors. An article did appear in the fall of 2002 *C4 Newsletter* describing what was thought to have been a new variety, called a 10-C,²³ but on reexamination, the coin was reattributed as a 13-T. Similarly, a



Figure 4: A recently sold Virginian halfpenny with both an obverse and a reverse not previously described by Newman. The authors have elected to designate the obverse of this new “no period” variety as 16, and name the new 8-harp string reverse as U. [Shown 2X actual size.] *Photograph provided courtesy of HeritageCoins.com.*

number of coins have been offered to the CNLF Virginia eSIG group as possible new varieties but each has been identified as an existing variety.²⁴

Die Interlock Chart

Newman's die interlock chart¹⁶ has been revised and enlarged for the Virginia coinage, based on the number of harp strings in the reverse die (see Table 1). At this time there are 24 known obverses and 22 reverses producing a total of 30 known die combinations. There also exist a few silver Virginia shillings dated 1774, made with an entirely different obverse and reverse die, but these will not be addressed in this article. Based on the 40 obverse and 30 reverse dies produced, some 1200 die combinations are theoretically possible. The reason more actual die combinations are not known, as shown by the die interlock chart, is that most Virginia coins have a single pairing of one obverse with one reverse. There is some die sharing within the reverses containing 6-harp strings (a single reverse variety B with two obverse varieties 5 and 9). Similarly, there is die sharing within the 7-harp string group (reverse D with obverses 2, 7, and 15, as well as reverse N with obverses 20, 21, 28, and 29). In addition, the obverse 4 is shared with the reverses G, O, and P and the obverse 23 is shared with the reverses Q and R. In the 8-harp string group the reverse W is shared with the obverses 10 and 12 and two 8-harp string reverses (V and X) share two obverse dies that also are paired with 7-harp string reverses. The only variety that crosses between the 6 and 8-harp string barrier is obverse 5. This unusual matching could be explained by Veach's theory that obverse 5 was used late in the minting process combined with the reverse Z (8-harp strings). Due to an early unanticipated die breakdown of the reverse Z, the reverse B was taken out of retirement and used with the obverse 5. Alternatively, the obverse 5 could have been the early die that was initially paired with another early die, the reverse B (6-harp strings), and retired after striking the 5-B. However, after a few months another obverse die was needed to finish the mint run, and the obverse 5 was brought back into service paired with the reverse Z (8-harp strings). Substantiation for which of the two scenarios actually occurred may be provided with an analysis of differing die states of the 5-B and 5-Z coins. The authors have inspected a number of high condition 5-B and 5-Z varieties with the help of Mark Kleiman³⁰ and noted that the obverse 5 in the 5-B die pairing has two small die chips on King George's cheek. In the 5-Z pairing, the two small die chips have combined to form a single larger chip. In addition the 5-Z has a die rust spot in the indentation below the bust, which is absent in the 5-B. Based on these observations



Figure 5: A 20th century pressing in pot metal of the existing die for a nine harp string reverse which exists in the Royal Mint Museum. [Shown 2X actual size.] *Photograph provided courtesy of Eric P. Newman, who retains this artifact in his collection.*

the presented die chart presumes that the 5-B was the early die pairing.

The most striking find, other than the sharing of the obverse 5 with both a 6 and an 8-harp string reverse, is the limited amount of die sharing that was used. Of the 46 combined obverse and reverse dies that are presently known, 36 are used only in combination with one other die. Three reverses are paired with only two obverse dies, one reverse is paired with three obverse dies and one reverse is paired with four obverse dies. Similarly, four obverses are paired with only two reverse dies and one is paired with three. It would seem that when one die of a die pair needed replacement, the Royal Mint would typically take both the obverse and reverse dies out of service. Although there is a 9-harp string reverse die which still exists, no coins with a nine string harp are known. A single modern “pressing” in pot metal of the 9-harp string reverse from the Royal Mint Museum’s existing die, resides in the Newman collection²⁷ (see Figure 5).

Conclusion

Although a total of 40 obverse dies and 30 reverse dies were created to produce the Virginia coinage, only 30 die combinations are presently known. These have been produced from 24 obverse and 22 reverse dies. One reason for the low number of known die combinations is the seeming preference by the Royal Mint for using a die pair only in combination with one another. Some intra-die sharing within each of the 6, 7, and 8-harp string groups does occur and to a lesser extent inter-die sharing between the 7 and 8-harp string groups. Only one die, (obverse 5) is paired with both a 6 and an 8-harp string reverse. Further study of high condition specimens will allow a more scientific determination of the minting sequencing of the various Virginia varieties.

Request

The Virginia coinage has not engendered as much interest among the colonial coin collecting community as the state and Fugio coppers. This may be due to the complexity and difficulty in attributing the coinage, as well as the size and clarity of previously printed photographs. Rumors exist concerning a number of die varieties not listed in the present die interlock chart, including a “3-L1”.¹⁵ The authors of this paper are in the process of preparing a reliable attribution guide for the Virginia colonial coinage. They would greatly appreciate any help the *CNL* readership could supply in bringing to light unknown Virginia dies or varieties and would also like to have the anticipated attribution guide as accurate as possible. Anyone contributing to this effort will receive acknowledgement, unless anonymity is requested. Contact for any new dies or varieties, as well as any new historical data, should be directed to the following e-mail addresses: rogermoore435@yahoo.com or vacoinage@aol.com. Since an ongoing record of all Virginia coins is being made with condition census data, any information about known pieces should include the variety, weight, diameter, condition, and pedigree.

Personal Observation of Eric P. Newman

As a participant in writing this paper, I am enthusiastic in having my research and writing on Colonial Virginia copper coinage revisited and revised. I originally wrote a manuscript on this topic in 1954, had it published in 1956 and supplemented it in 1962. In 1982 Graham P. Dyer and Peter P. Gaspar reviewed and carefully described the Royal Mint records and the remaining Virginia matrices, punches and dies, locating a Virginia reverse punch which had been improperly categorized. Many other numismatists added to the die varieties and history, including Ted L. Craige, Howard W. Harner, Michael J. Hodder, John M. Kleeberg, Philip L. Mossman, Richard Picker, James C. Spilman, Gary A. Trudgen, Raymond A. Williamson, etc. In 1989-1993 William N. Veach did a large amount of research on the Virginia coinage and published *The Generation Newsletter* to stimulate greater interest in the subject. Unfortunately he abandoned the work. In 2002 a new group of numismatists and some of the prior researchers joined with the coauthors to create a team to see this complex matter through. I am pleased to have been asked to join that team.

Whether or not a half century span between two writings on the same specialized numismatic subject by the same researcher may be a record of sorts, it does show that any writers should not be complacent about their work and should expect others as well as themselves to improve the topic by further studies and findings.

Addendum

The recent appearance in auction³¹ of many of the coins used to provide the images in Eric P. Newman's classic monographs^{1,19} has allowed a reassessment of the named varieties. It became apparent that the 2-E variety whose obverse image was used in the photo plate to illustrate obverse 2, was actually a 2-D. The 2-D variety has never been previously described. Further examination lead to the conclusion that obverse 2 and obverse 11 on the photo plates were actually from the same die. Finally, reverse E and reverse F were also from the same die. The overall conclusions that were made by the Virginia eGroup were that the 2-E variety should be designated as 2-D in the future, and the 11-D variety should be dropped from the listing of known varieties. Along with these changes the reverse E would also be dropped as a designated reverse. The authors recommend that any readers possessing what they believe to be a 2-E or an 11-D, undertake a reassessment based on the information provided above.

Fortuitously, this information became available prior to this paper going to print so that the die interlock chart and information provided within the paper have been appropriately updated.

Acknowledgements

Appreciation is given to Gary A. Trudgen and John M. Kleeberg for their critical review and suggested changes in this paper. In addition, the paper would not have been written without the leadership and persistence of James C. Spilman in putting interested people together on the Internet for discussion and exchange of ideas within the Colonial Newsletter Foundation electronic Special Interest Group (eSIG) on Virginia Halfpence of 1773. Finally, members of the CNLF Virginia eSIG group which have joined together to exchange ideas and information about this great coinage include the authors, as well as David Gladfelter, Morris E. Hankins, John M. Kleeberg, Robert B. Korver, Jeff H. Lipsky, Scott Loos, Sydney F. Martin, Jeff Rock, and James C. Spilman. All parties interested in the Virginia halfpence coinage are invited to join the research group by indicating your interest in an e-mail to one of the two e-mail addresses listed above.

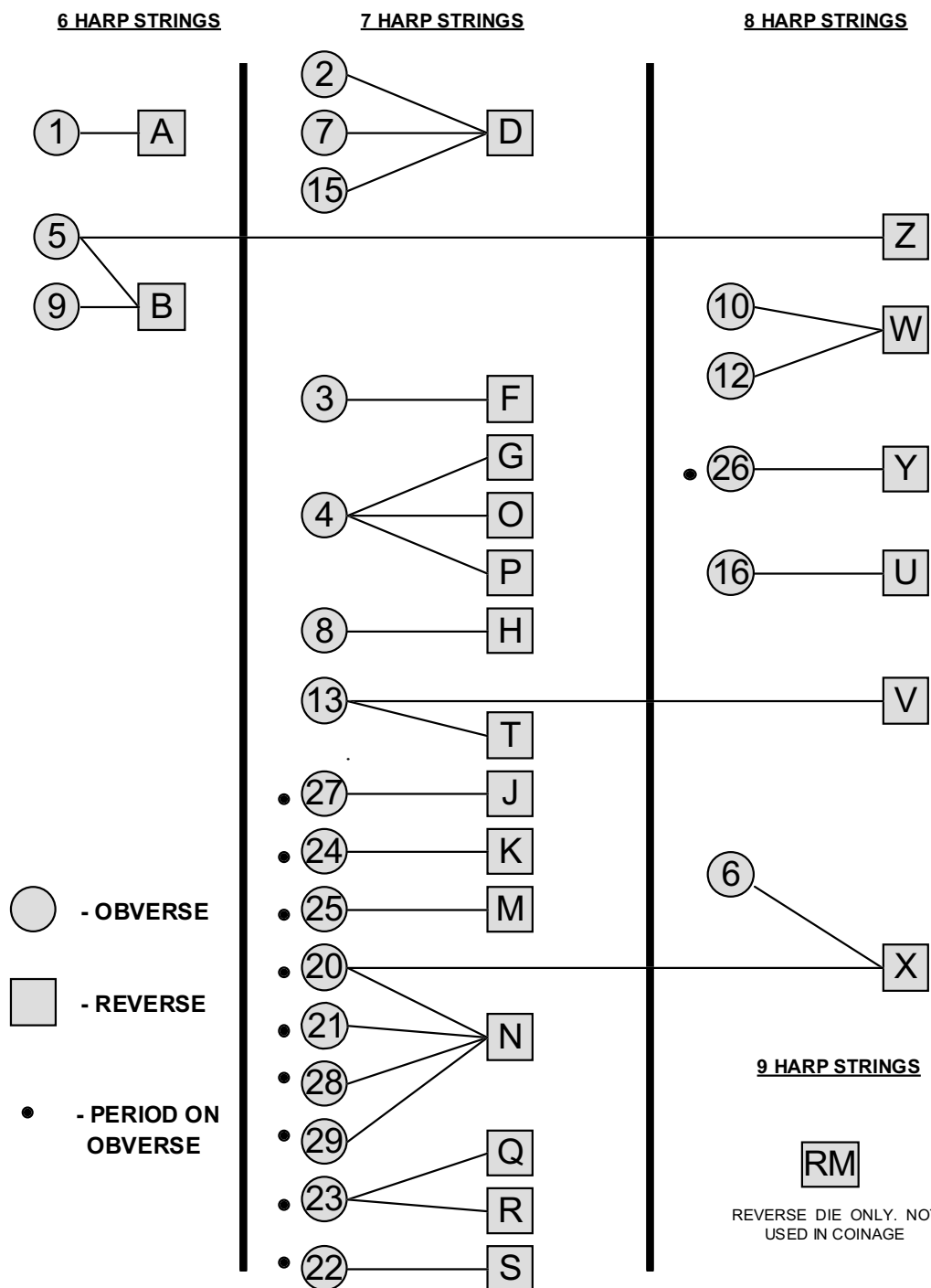
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- (22.) New Netherlands 59th auction sale, June 1967, lot # 1060, "14-E" "discovery" coin.

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- (25.) Heritage Auction January 31, 2004 *Long Beach Signature Sale* # 342 lot # 5003. The first appearance of the new "no period" 16 obverse combined with the new 8 harp string U reverse.
- (26.) C-4 Auction Catalog October 12, 1996, lot # 179, "14-E" resold.
- (27.) Newman, Eric P. Personal communication to Roger Moore by e-mail on 3/26/2004.
- (28.) Spilman, James C. Private communication to CNLF Virginia eSIG by e-mail 2/20/2004.
- (29.) Private communication, including photographs, to Roger Moore, from a source that has requested anonymity.
- (30.) Private communications, including photographs, to Roger Moore, from Mark Kleiman.
- (31.) Stacks Auction Catalog of the John J. Ford, Jr. collection, Part VII, January 18, 2005. Lot # 99 is described as a 2-E and the obverse Newman plate coin. It is actually a 2-D.

Table 1

Virginia Halfpence Die Relationships



Gleanings from the Internet
The Stepney Find: Hoard or Collection? The Debate Continues.
Edited with Commentary
by
John M. Kleeberg

(G14)

On April 9, 2000, Bob Merchant established an electronic communication group devoted to colonial coins. Now hosted on Yahoo! under the name "colonial-coins," the group has been a tremendous success: over the past year, the number of messages has often exceeded the astonishing number of a thousand a month, and the total number of messages posted is making a steady march towards 25,000.

At the end of January 2004, the group began to discuss the Stepney Hoard. The reaction was remarkable. The first mention of the hoard was on January 22, 2004, at 8.20 pm. By the time the last email was posted in reference to this topic, shortly after midnight on January 29, 2004, nearly seventy messages had been posted by fourteen different posters. The most intense discussion occurred between Saturday, January 24, 2004, and Tuesday, January 27, 2004. Postings were made at all hours of the day and night (even taking into account the difference in time zones), with the only major pause occurring between three and five in the morning. The number of messages, if anything, understates the interest in the group, for the number of words (not counting echoes) was at the high level of around ten thousand – the equivalent of forty double-spaced typewritten pages. Some of the participants mentioned the desirability of publishing the thread in a permanent form. This task devolved upon me because of my great interest in hoards. Not all the posts are reprinted here, nor all the content of the posts; this article just focuses on the substantive issues. What made the debate so interesting was the quality of the contributions to it; in the course of the debate the participants touched on many of the most important issues concerning hoards. Commentary has been added to this debate to draw the issues out further.

1. John M. Kleeberg January 24, 2004, 7:51 pm.

The Stepney Hoard is an extraordinary group of coppers of the Confederation period, consisting of ca. 125 Connecticut coppers, 11 Vermont coppers, one Nova Eborac, 12-16 Machin's halfpence, and 60 other counterfeit British and Irish halfpence. It is the source for many of our top condition Confederation coinages, especially Connecticut. Oddly, it has no Massachusetts coppers, New Jersey coppers, Nova Constellatio or Fugios. I have proposed the theory that it lacks those coinages because the hoarder preferred "head type" coins to other designs - like the rationale that is given for the shift in design on the Vermont coinage. The hoard is said to have been found in a barn in Stepney, Fairfield County, Connecticut, in 1950. It was sold through Stack's. Walter Breen saw and catalogued most of the hoard when he was working at Stack's. Most of the Connecticut coppers were sold via Henry Fortier to Norman Bryant; many reappeared in the 1975 EAC sale. Eric Newman bought what he called "the dregs," when he persuaded Breen to pack up the unwanted British and Irish halfpence and sell them to him. The "dregs" included the rare "CEORCIUS" piece, which was the basis of Newman's article in the 1958 ANS Centennial volume. The most thorough treatment of the hoard is Phil Mossman's 1998 article.

There is a school of thought that doubts the hoard, including Ned Barnsley, who called the Stepney Hoard "a fraud," on the grounds that coins buried under a barn could not be in such superb condition. Barnsley was super-smart, but on this point I think he was misled.

2. Ray Williams, January 24, 2004, 11:10 pm.

I pulled out CNL 108 and read through the CT Copper varieties. I have a difficult time dealing with there being 74 different varieties represented in 105 CT Coppers. Even if almost all can be attributed to the same mint, I still find it difficult to account for this in a hoard. It seems more like an organized collection. Even take my New Jersey Copper collection... I own about 140 New Jersey Coppers and of these, there are 89 different die varieties. These were collected over the past twelve years or so.

3. Chris Stevens, January 25, 2004, 11:17 am.

Ray, I couldn't agree more. I'm at 150 Machin's but have less than 30 varieties. If coins were "pulled" from circulation as in a hoard, as opposed to collected, there would be dozens of duplicates. I would imagine that multiple examples circulated together, as coins were dispersed as they were made. I have always imagined that a dozen or more examples of the rarest varieties were possibly all in one person's pocket once!

4. Jeff Rock, January 25, 2004, 2:49 pm.

This "hoard" actually looks far more like a collection—the number of varieties that were duplicated is relatively small, and there isn't a big number of any single variety. If it was a collection formed prior to Crosby's or Dr. Hall's works then it looks even more like a grouping that someone put together with a purpose — with no real printed listing of varieties available, and precious few photographs of ANY varieties, duplicate examples of varieties could be explained by variances of strike—for instance one of the 37.3-i's was very weakly struck and could look like a different variety than a well-struck version of the same.

What is interesting is that the condition of the coins included in the Stepney Hoard was across-the-board superb. That either means that they were "collected" (as a collection or as a hoard) shortly after minting or that a collector with an eye for quality just hung on to the choicest pieces he could find at some later date. If the hoard consisted of just a handful of varieties, as was the case with some of the large cent hoards or the Bank of New York Fugio hoard, then it would seem probable that it was a random accumulation of coins set aside shortly after mintage. Or, if the hoard contained the majority of a certain type, such as the Cohen hoard of Virginia halfpennies, it would clearly not be a collector's accumulation at all.

One wonders what a random hoard pulled from circulation, in Connecticut, would look like. Would there be this wide variety of types all in circulation at the same time? If it was formed after the Coppers Panic then it would explain why there were no New Jerseys — those still had circulating value in that state, and would not have been tossed aside like some of the devalued state coinages would have been. The Vermonts did include a couple of landscapes, which would seem to argue against John Kleeberg's theory of "head type" coins. I doubt many Fugios were actually in circulation anywhere at the time of the Coppers Panic (or even after their initial mintage run), and the Massachusetts coinages don't seem to have strayed too far from their borders.

What struck me most vividly when I saw a list of the contents of the Stepney Hoard, laid out in a column format, was just how much this hoard looked like a specific collection—its closest similarity in my mind was to the Hessberg collection, which concentrated on the 33-Z varieties of 1787 Connecticuts, though which certainly had some stellar coins from other years and types.

In the era that this hoard was sold, the value of the coins was really minimal — the Connecticut's wouldn't have brought more than \$10-25 apiece for the most part, and the other coinages were even

less valued (I think Eric Newman once mentioned that he brought the “dregs” as John Kleeberg aptly called them, for under \$1 apiece — not only did that group contain the CEORCIUS piece he mentioned, but several Machin’s Mills halfpennies that were Uncirculated, including the only gem prooflike, perfectly-struck Machin’s I have EVER seen!).

Because the perceived value at the time was minimal, it wouldn’t make much sense for someone to fabricate an elaborate story, at least not for that story to be fabricated by Stack’s, or by Walter Breen, or anyone else who handled the material. It was always my gut feeling — no proof whatsoever here — that it was a true collection, and that whoever sold it to Stack’s invented the story and it was passed down from there. There are myriad reasons [why] that could have happened. I’m sure we could all think of dozens of scenarios that seem a lot more likely than a true buried treasure!

Comments on posts 2-4: one reason for the skepticism about the Stepney Hoard being a hoard is because researchers in the field of Early American numismatics are not well acquainted with hoards. We are acquainted with some hoards: the Bank of New York Hoard of Fugios, the Cohen Hoard of Virginia halfpence, the Goodhue-Nichols Find of early date large cents, the Randall Hoard of middle date large cents. All of these hoards, however, were obtained directly from the mint, so (with the partial exception of the Cohen hoard) they have relatively few die varieties. Yet if we look at hoard studies in ancient and medieval numismatics, die links, let alone die duplicates, are the exception, not the rule. In the Stepney Hoard, counting die links, and not just die duplicates, 72 of the 105 Connecticut coppers are die-linked among each other. By contrast, among the imitation Athenian owls of the 1973 Iraq hoard, only 28 are die linked or die duplicates out of a total of 165; yet there is no question that that group is indeed a hoard (Van Alfen 2000). By contrast to many ancient and medieval hoards, the Stepney Hoard is remarkable not for the number of die varieties, but rather for how tightly linked those varieties are.

Comment on post 4: the poster erred when he said that there were Vermont landscape types among the Stepney coins. Of the three Vermont pieces that Breen saw, all were head types: two Ryder 13s and one Ryder 27. His observations about Massachusetts coppers are correct; in this context it is interesting to note that Wayne Shelby, who made a very thorough survey of coins of the Confederation period excavated in southern New Jersey, mentions no find of a Massachusetts copper (Shelby 2004). The poster omitted to address the absence of Nova Constellatio coppers from the hoard. Nova Constellatio did circulate extensively in the Northeast. Nova Constellatio are frequent single finds (Shelby reports five), and were also used extensively for overstriking.

Comment: The next posts are a colloquy between Steve Frank and myself about the definition of a hoard, and how a hoard can be distinguished from a collection. They are taken out of order because they didn’t have much influence upon the main debate, which resumes after these posts.

5. Steve Frank, January 25, 2004, 5:19 pm.

Is there an implied numismatic definition to “hoard” meaning “non-collection” as I cannot see why something cannot be both a hoard and a collection....

6. John M. Kleeberg, January 25, 2004, 5:49 pm.

This is a tough distinction, because there are collectors who accumulate coins - like John Beck who decided to accumulate all the 1856 flying eagle cents. Those are not true hoards. Hoards tell us about history at large, and John Beck’s accumulation only tells us about collecting habits among earlier US coin collectors. The distinction can best be understood by analogy: contemporary counterfeits tell us about the coins that were in circulation at the time they were made, because counterfeiters

only attack the popular coins, e.g. counterfeit halfpence. Modern fakes tell us about collecting habits, e.g. the many modern forgeries of US three dollar gold pieces - which are popular with collectors, but the real three dollar gold coins didn't circulate much at the time they were originally made. Hoards correspond to contemporary counterfeits. Collectors' accumulations correspond to modern fakes.

My definition of a hoard follows: "Two or more coins or other valuable objects, removed from circulation and intentionally concealed, usually with the purpose of eventual recovery."

The courts have had trouble defining treasure trove, too. One useful insight that they have made is that "treasure trove carries with it the thought of antiquity." This means there has to be an ample time interval between concealment and discovery. This is helpful, because it means that a sack of money that falls out of the back of an armored car should not be considered treasure trove (or, for that matter, a hoard).

7. Mike Hodder, January 25, 2004, 4:49 pm.

There are two classic types of hoards: emergency and savings. The Stepney Depot hoard fits into neither of these two types. It does not include any New Jerseys, the most current of all coppers in circulation in 1786-90. It includes Vermonts, whose circulation pattern was the most restricted of all state coppers. It favors one particular section of the Connecticut corpus over others, as Jeff points out. Its Connecticut content and overall condition are more typical of a collection than a random assortment, as Ray noted. Its contents include enough rare varieties to suggest deliberate selection.

The only evidence we have for the hoard's discovery is Breen's story about it, told in *The Numismatist* in 1952 and elsewhere. He said he saw most but not all of the coins, some of which had already been sold. Interestingly, the late Norman Stack told me that he sold a significant portion of the hoard to Hessberg, exactly as Jeff guessed. I published this in a footnote to QDB's book on coin hoards.

It is my belief that the Stepney hoard was a collection that arrived at Stack's with the hoard story already attached to it. Stack's accepted the story as Breen seems to have, as true. I have no explanation why it was felt necessary to create the story. I do not believe Stack's made the story up because they did not need to for the coins to sell. Norman's tale included his statement (unpublished) that the Hessberg purchase was made within days of the hoard arriving at Stack's office. Hessberg almost demanded that Norman sell him the coins he saw, which by then had been transferred into Raymond boards. The bit about the coins needing brushing because they had become encrusted with some crud while inside an iron kettle isn't the sort of detail you want to tell about some coins you want to sell and it's hardly typical of a Stack's sales pitch of the time.

There are no archival (i.e., written) materials at Stack's that mention the Stepney Depot hoard. I'd have published them had I found any. Harvey Stack wasn't much involved with colonials, which were more Norman's thing, so Harvey has no recollections of the deal to share. I made a point of asking Norman about Stepney when I first got to Stack's and what he told me I've told you.

In sum, the Stepney Depot hoard probably wasn't. It doesn't fit the expected types and its contents illogical. Barnsley felt the same, and he was closer in time to the discovery than I am.

8. Mike Hodder, January 25, 2004, 5:09 pm.

Phil's monograph on the Stepney Depot hoard was nicely done but assumed the coins were a hoard from the beginning. As I noted earlier, and to Phil at the time, I believe there's little logic in the contents that supports a hoard and lots that points to a collection.

Bryant told EPN he bought coins ex Stepney and some of the Bryant-QDB-EAC '75 coins were so catalogued. Norman Stack told me he sold Stepney coins to Hessberg. I suspect both stories are correct.

The Stepney Hoard seems to have become something of a treasured story among some collectors. It is believed in with as much confidence as most foundation myths seem to be.

9. John M. Kleeberg, January 25, 2004, 6:34 pm.

With the Stepney Hoard you have to leap one way or another; either it is a hoard, or it is a collection. We can tackle this question two ways, and whichever way you go, you end up with a hoard, because there is no way it can be a collection.

Why do we know it is a hoard? This is a parcel of extraordinary quality. The pieces came onto the market at the same time. When Phil Mossman gave a talk about the Stepney Hoard at the ANS, we put on a display from many different collections of pieces from the Stepney Hoard, and the coins had a similar patina; the same "look." The contents correspond to what we know from other sources would be circulating in the region at the period (Connecticuts, Vermonts, counterfeit halfpence). Real hoards make sense. There are many phony hoard stories, and they often fall apart because those hoards don't make sense. (An example is a New Haven hoard from 1913, which was an attempt to salt a fake 1804 dollar; the fakers included Continental currency and a Connecticut copper, not realizing that they never circulated at the same time [Bowers 1997, 404-5].) Breen, who looked at the coins closely, said that many pieces shared similar damage from the gravel in the kettle. The people who dealt with the hoard at the time (Stack's and Breen) said that it was a hoard. Breen published information about it within two years of the hoard's discovery, yet no one came forward at the time to contradict him. Newman did the same in 1958.

Consider the collection theory. The collector has put together one of the most extraordinary Connecticut copper collections of all time - many great rarities, yet not a single example of the horned bust, 1787 4-L. It is hard to avoid 4-L if you are Connecticut collector. At the same time this must be one of the most advanced collectors ever, for the "collection" includes 72 counterfeit halfpence, at a time when very few collectors were buying them. If we think this is a collection, we must assume that the collector assembled these assorted Connecticut die varieties with painstaking care - yet didn't single out and identify the CEORCIUS piece, so that Newman was able to buy it with the other Machin pieces for \$7.50. Furthermore, there are none of the collector characteristics with this hoard. Sophisticated Connecticut collectors of the early twentieth century painted numbers on their coins, because the coinage was so difficult to identify. Yet this "collection" contains not a single coin with painted numbers. If you spend much time looking at large cents in old time collections, you will know that old time collectors leave traces on their coins: they cannot resist "improving" them, by tooling, buffing, applying mineral or canola oil, painting a new patina, or cleaning the coin with acid. I've not seen a Stepney coin with the sort of tricks that were done by William F. Sunday and his ilk.

As for Ray's point about the spread of varieties indicating that it must be a collection, for a hoard would have more multiple examples of the same die variety, this could be a function of the distribution system, or of a very short die life for Connecticut dies. Jeff pointed out that although

some hoards have a very small, “tight” number of die varieties (the Bank of New York Fugio hoard), others can contain a huge spread of varieties (the Cohen hoard of Virginia halfpence). If a mint were to use a die box system (so the minter takes at random one obverse and one reverse, and the next day uses a different one, and on day three may use the obverse from day one plus the reverse from day two), that in itself would result in a greater spread of varieties than if the minter were to use one obverse and one reverse until one die breaks.

It is true that any hoard of coppers has to attract more scrutiny than hoards of silver or gold, because it is normally illogical to hoard copper. Money is a store of wealth and a medium of exchange; the hoarder uses money only as a store of wealth, and most hoarders, sensibly, hoard gold, rather than fiat token currency. That is why the Stepney hoard only makes sense in the run up to the Coppers Panic. The hoarder had begun to distrust the copper coinage, and thought that the head types would be the ones that would retain their value, and buried this hoard in early 1788. The hoarder miscalculated. In the Coppers Panic all coppers, New Jersey alone excepted, lost their value, and so it was not worth the hoarder’s while to dig up the hoard to recover it. Thus it remained to be recovered in 1950.

Comment: William F. Sunday was a coin dealer in upstate New York, near Rochester, who was notorious for “improving” his large cents; to such an extent that some old time large cent collectors use it as a verb: “That cent has been Billy-Sunday’ed....”

10. Chris Stevens, January 25, 2004, 7:48 pm.

The uniform patina argument is a strong one, as coppers being collected even in the mid 1800’s would already have developed their own unique characteristics. If this was a collection, then the individual must have had extreme patience. Is it even possible to believe that an individual could collect by color/patina?....Even though I know some of you real hard-core guys still do!

11. Phil Mossman, January 25, 2004, 8:17 pm.

Considering that so many of the coins were in pristine shape, if this were a deliberately formed “collection,” then the collector would have been active pretty much in the 1780s. Who in the world would have been collecting Connecticut coppers and bogus halfpence at that time?

12. Jeff Rock, January 25, 8:41 pm.

Patina IS something to think about...though it is not conclusive. If the coins were collected and stored in the same place, in the same fashion, you would expect some similarities in surface quality, especially if the coins were all choice to begin with. Let’s hypothesize that this “hoard” was actually one of the large groups of Connecticut coppers that were sold in a handful of the obscure Chapman sales in the late 19th century (unattributed of course, perhaps a little earlier than Dr. Hall was collecting). The buyer then added a big group of inexpensive British halfpence — who knows if they were all counterfeit or not, and maybe a couple of other coins. Then, he basically puts them away and forgets about them (i.e. the Hessberg collecting method). If they were stored in something like the Wayne Raymond albums, you would expect fairly similar surface quality — for those of us who saw the John Ford New Jerseys, Vermonts and Fugios, one of the striking qualities was the same sort of patina that all the pieces acquired (and how much nicer the coins looked when they were lightly brushed — a similarity to Breen’s comment that the coins in the Stepney Hoard needing some TLC).

To my mind, John Kleeberg’s argument concerning the Miller 4-L actually cuts both ways. Sure, it would be difficult for a collector NOT to own an example of the variety, but given how darned

common it is, wouldn't it be just as hard for a random accumulation not to have it either? Things get really interesting when you consider how few R-1's and how many R-6's and R-7's there were in this accumulation — though of course we can't fall into the trap of thinking that because something is an R-7 today that it must have had an extremely small mintage to begin with, BUT we can be pretty sure that if something is an R-1 today that the original mintage must have been huge.

As a die-hard Connecticut copper collector (it was my first love when I started collecting coins, and indeed my first coin purchase was a Connecticut copper — a nice 39.1-h.1), I would love to have the Stepney Hoard story be accurate — it gives us something special that the other state coinage series just don't have (Virginia halfpennies and Fugios being the closest, though both of those hoards were quasi-official ones, not a random assortment as the Stepney Hoard is suggested to be)...but I think the evidence argues against it being so.

Is there any way to guess what a random assortment of coins pulled from circulation all at one time would be like in a series of 350+ varieties (assuming of course that such a hoard was formed in 1790 after all varieties had been minted)....possibly using current rarity ratings for the individual varieties and then estimating the mintage of each variety based on surviving numbers (which would be an educated guess, nothing more)? And would that actually tell us anything, or just be an exercise in mathematics?

Comment: all studies of hoards go back to the classic study by Bengt Thordeman on a Swedish seventeenth century hoard, the Lohe hoard (Thordeman 1948). Thordeman had access to the huge Lohe hoard of Swedish seventeenth century coins, and he had access to excellent Swedish mint statistics. He graphed the one against the other and found that there was an extraordinarily close correspondence. Ever since Thordeman, numismatists have looked to hoards as potentially containing the answer as to what was the original mintage. This has led to a very sophisticated mathematic debate about these issues. One is Warren Esty's study, which gives a formula allowing one to predict from the number of dies in a hoard the number of dies in the entire coinage (Esty 1984). The application of these mathematical formulae to the Stepney Hoard will be discussed at the end of the article.

The following message is printed out of sequence to keep the discussion of patina together before new topics arise:

13. Mike Packard, January 25, 2004, 9:33 pm.

I'm not sure I would give much weight to the color and patina argument one way or another (whether the group was a collection or a hoard). Coins stored in the same environment will, given enough time, begin to take on similar characteristics of color and surface, even if their surface characteristics were very different to begin with. Sadly, I know it seems to be happening with Dr Sheldon's wonderful color set of large cents. Regression to what? The mean? The lowest common denominator? With all the counterfeits in the group, is it possible that they belonged to someone (an honest storeowner, perhaps) who pulled the fakes out of the till at the end of each day and disposed of the lot of bad copper all at once. (Presumably bad gold or silver could be melted down and reused for other purposes which might explain why these fakes were not found in the hoard.)

Comment: the latter part of this posting raises an interesting idea — it introduces the “reverse hoard” concept into the debate. In other words, the coins were assembled not because they were desirable, but rather for the opposite reason — they were rejects. Normally, when we think of a hoard, we imagine the hoarder is picking the desirable pieces out of circulation and spending the less desirable ones. Here the hoarder is thought to be purging circulation of the undesirable pieces and placing them aside. An example of a true “reverse hoard” could be the Montclair Hoard, which contained

coins that clearly had been rejected for one reason or another, as indicated by a cancellation graffito (Montclair no. 4) or a gouge in the eyes (Montclair no. 21) (Kleeberg 1995-96, 201, 204). Other coins in the Montclair Hoard were undesirable because of their large holes. Given the absence of cancellation marks in the Stepney Hoard, however, the “reverse hoard” concept is not applicable to it – although it could be usefully applied to the Montclair Hoard.

14. Ray Williams, January 25, 2004, 9:14 pm.

If the purpose of these coins existing is because they were a hoard assembled during a coppers panic, I think the person constructing the hoard could have used one gold coin, or a couple of silver coins, to achieve the same purpose and had a medium of exchange that wasn't prone to fluctuate in value. I think that it is a collection that was called a hoard by the seller, for the purpose of concealing where the coins really came from. It happens on ebay all the time.

Comment: this post introduces two concepts. One of these is: why hoard copper, anyway? That question will be discussed in a final entry about *comparanda* below. The second concept is the phony hoard story.

15. Dan Freidus, January 25, 2004, 9:22 pm.

I don't see any need to concoct a story to sell the coins. The story does seem plausible. Underneath a barn can be a very dry place, even if most barns and most places beneath them aren't. Now Stepney is a very small town and probably has a very small number of 18th century barns or barn foundations remaining. Someone could probably narrow down the number of potential sites with work at town hall, combined with some census and map information. That might lead to a family but might also lead to nothing conclusive either way

If the coins are a collection, I doubt it was early 20th century because it would be very surprising to see a high quality collection like this without any coins that passed through major auctions where, because of their quality, some would probably have been plated. If it is a collection, I'd suspect it was formed much earlier. But then there's the question of the source for the coins. If Miller and Hall and others spent a lot of time searching out coins of this quality with the help of auctions and coin dealers, how did this collector do so under the radar?

That said, is this what a 1790 circulation sample would have looked like? Certain aspects seem right but certainly not all. In our experience, more coins would be expected to be of common varieties. Surely that would also lead to more duplication of varieties. Would we expect more late varieties and fewer early ones?

There has been speculation about what the language of the punctuation and ornamentation of the Connecticuts means. Was it random or a code (even if that code was simply akin to a serial number or signature on the dies)? I haven't looked through the Stepney variety list with this in mind, but if the group is a contemporary assemblage rather than a later collection, could it be something other than an emergency or savings hoard? Is there any pattern to what was included that could make sense for assembling it, e.g. the work of a specific person or persons, or a specific time frame? The group seems too broad for me to think of what that theme could be. So I'm mostly left with contemporary hoard or very early collection. Either one means accepting some statistically unlikely events taking place.

Comment: Jack Lloyd made a suggestion along the same lines as those discussed in the last paragraph. Lloyd suggested that the Stepney Hoard is a record made by Buell of his coppers,

preserved for future evidence against potential lawsuits (Lloyd 1998). That would explain the odd selection of die varieties.

The next post is taken out of sequence because it responds to Dan Freidus's proposal that we search for the family using maps and census information to find the barn:

16. Phil Mossman, January 26, 2004, 8:59 am.

Already did that! As you read in my article, a big problem was to find where Stepney is actually located.

Comment: this touches on one difficulty for hoard advocates: all attempts to find out about the hoard in Stepney itself have failed. Phil Mossman discovered that there were two places in Connecticut named Stepney, one part of Monroe and the other part of Rocky Hill, but in both places his inquiries met with a dead end. Eric Newman and Norman Bryant had the same experience in the 1950s.

The next colloquy resumes the discussion of phony hoard stories:

17. David Palmer, January 25, 2004, 9:46 pm.

You could write the ebay copy yourself. FOUND in my Grandfather's barn..... Neat old kettle..... lots of funny looking coins dated.... can you believe 1787, and thereabouts? Have no clue what this hoard of old coins is worth, please see the scans for condition.... sorry they are dark, but copper doesn't scan well.... anyway, no returns... Have fun! Anonymous seller

Comment: the next post responds to post number 14.

18. John M. Kleeberg, January 25, 2004, 10:25 pm.

[First part discusses why hoard these coppers:]

The hoarder is trying to be clever - a copper panic is on the way, but the hoarder is betting on the survivors. A modern example. By October of 2001 it was pretty clear that Enron was headed down the tubes. The energy trading business, however, still seemed very attractive. I was thinking of buying stock in Dynergy, because I figured that with Enron out of the way, its largest competitor would pick up all that business. Fortunately I didn't, because the entire industry went down the tubes. The hoarder is buying Dynergy. The hoarder thinks the horseheads are Enron.

Let's put our minds back in 1788. Last year, mints got set up all over the place (like slab services now). We see more freshly minted copper every day. People trust the copper medium less and less. Our hoarder says: "Of these coppers, which should I get rid of as quickly as possible (i.e., spend them), and which should I save?" The hoarder thinks: "What can you trust, if not coppers that carry portraits of the worthy Hanoverian kings?"

We now know that the hoarder should have kept the horseheads (which were a legal tender), and the hoarder guessed wrong. But this phenomenon must have been going on all the time in the 1780s. There are some coppers in which the public seems to have lost confidence early, so they ended up being overstruck - examples are Nova Constellatio and counterfeit Massachusetts coppers. Even before the Copper Panic, there were some coppers that were distrusted.

[The second part discusses the phony hoard story issue:]

Yes, there are many phony hoard stories - but the purpose is to enhance the value of the coins. If this was a collection and the seller made up a hoard story, it was a terrible miscalculation, because it meant that those beautiful Machin pieces got sold very cheaply, including the CEORCIUS. If this was a collection, so much effort must have gone into assembling it that it is hard to believe that the seller would have shown up, said, "This is a hoard buried under a barn in Stepney, yes \$100 will cover it nicely, thank you goodbye."

19. Ray Williams, January 25, 2004, 10:50 pm.

One purpose for the seller calling this a hoard could be to enhance the value of the collection. Another purpose could be to hide the real source of the collection.

20. Steve Frank, January 26, 2004, 1:44 am.

A modern day hoarder....that kook from Vegas, Binion, was found murdered. Authorities found he had buried millions in Morgans, gold and silver bullion, and who knows what else out in the desert. When Ray asks why coppers when he could have done the same with a couple gold and silver pieces, I answer Binion could have done things differently, too. It seems that being a hoarder does not mean someone is mentally stable, but rather often, just the opposite.

Comment: Sadly, very true. It is related to obsessive compulsive disorder – recent studies show that compulsive hoarders have too little activity in the anterior cingulate area of the brain (O'Connor 2004).

21. Ray Williams, January 26, 2004, 8:20 am.

Binion had easy access to silver dollars. He did not have access to gold coins for face value. Silver and gold both held up well when banks failed and paper money was devalued. Although since the Civil War I don't believe that any paper money lost its value, he probably heard his grandfather talk about broken bank notes.

You bring up paranoia or mental instability. There's also distrust of the banks. I know some people who had hoards of hundreds stashed in their houses when the year 2K approached. I don't recall any of them having any rolls of cents tucked away...

Comment: the phenomenon of mentally unstable hoarders accumulating hoards of copper coins is known during times of crisis, however. The best known numismatic example is the Aaron White Hoard, assembled by an eccentric Connecticut lawyer who accumulated nearly 100,000 copper coins during the Civil War (Jones 1938, Breen 1952).

22. Alan Anthony, January 26, 2004, 8:56 am.

I think that it is a hoard. Just as many today many throw "pennies" in a jar, back during the Copper Panic the hoarder tossed the lightweight coppers in a pot. There are no New Jerseys because they were legal tender coppers. Fugios are not there because they are full weight coppers. As today one cent pieces languish in jars, they became just more stuff lying around. Maybe something for the kids to play with, perhaps stuff to toss into the barn to get it out of the way.

Comment: The idea of throwing "pennies" into a jar is in effect a further development of Mike Packard's "reverse hoard" idea, discussed above. John Casey has described this type of hoard in

terms very similar to those used by Alan Anthony: "Nearly everyone has formed a hoard at some time or other. It may be known as the 'extravagance fund,' the 'holiday kitty,' the 'funny money' or it may be the coins put aside to ease the payment of the telephone account. These sums may be accumulated in piggy banks, old whisky bottles, cocoa tins and concealed under the bed, in the garden shed or be on plain view on the kitchen shelf" (Casey 1986, 52).

23. Ray Williams, January 26, 2004, 9:16 am.

If it was a "penny jar" of the time, why are there not more duplicate varieties of CT Coppers?

24. Michael Hodder, January 26, 2004, 8:22 pm.

After all the to-ing and fro-ing about the Stepney Depot Hoard being one or not, I decided the best thing to do was to go back to the surest evidence about the hoard that's not someone's opinion or inference. So, I looked at Phil Mossman's CNL study on Stepney, published in August, 1998. Phil did us all a great favor by including the unpublished inventory of the hoard's contents made by Breen probably in 1952.

Looking over Walter's notes I am struck once again by the two aspects of the hoard remarked on by everyone who writes about it: the high condition of the coins and the number of rare varieties included in it. Mossman reported that 60 of the 105 Connecticuts in the hoard were Mint State coins (as graded by Breen) while Rothschild found that 63% of the hoard was graded EF or better. Mossman found that 41% of the Connecticut varieties were Rarity-5 or higher and Rothschild characterized the hoard as top heavy in Rarity-5 and Rarity-6 varieties.

This evidence for high grade and high overall rarity has been ammunition for those for or against the hoard being real. Opponents say the contents look like a collection of high grade and rare coins, not a random assortment of coppers taken from circulation and buried in 1788. Supporters say no one collected coppers by variety in 1788 and no one (except maybe Dr. Hall) had a collection like the Stepney Hoard, not even Taylor or Hessberg. Kleeberg makes the point that none of the Stepney coins was a PDV (painted die variety) and the overwhelming presence of types similar to those most commonly encountered in the 1788 marketplace (bust type coins) points to the Stepney coins being a late 18th century hoard and not a late 19th century collection. Mossman locates the hoard in either of two Stepneys in Connecticut but both placed on routes to and from Newburgh, New York, which he finds helpful in explaining the presence of high grade Machin's Mills related coppers in the hoard.

Neil Rothschild's argument that the Stepney Hoard is very unlike a modern collection of state coppers like Frederick Taylor's is a stumbling block that opponents of the hoard cannot explain away. Neil suggests that a collector like Taylor or Hessberg, with their resources and contacts, did not assemble collections looking anything like the contents of the Stepney Hoard. Kleeberg points to the absence of a 1787 4-L from Stepney, the commonest of all state coppers and one found in just about every collection of CT coppers, sometimes in abundance, as evidence that it was not a collection. I have already noticed his argument from the absence of PDV's in Stepney that it was not a collection. Kleeberg's arguments may not be conclusive but they are convincing. A collection of CT coppers should include a 4-L. It should, in fact, start with a 4-L! And in any collection of such high grade specimens as seen in Stepney experience teaches that there should be at least one that has its Hall or Miller variety painted on it somewhere. Just look at the Ford duplicates or Hessberg's mainline coins, for two examples, where we find multiple high grade PDV coins.

The hoard story sounds romantic and the kettle bit lends a fine touch of authenticity. Those who told the story are no longer alive, so we really can't test it. The derivative argument for common storage based on similar patination sounds convincing until one remembers that the Norweb Connecticuts all had the same patination on them from storage in envelopes in the 1930s. The absence of New Jersey or Massachusetts coppers from the hoard is troubling for supporters, especially if it is to be dated to 1788, but restricted circulation patterns might explain this. However, there's simply not enough documentary evidence to tell us for sure how coppers circulated in the late 1780s.

What does one make of all this? The facts are simple, they are the coins, themselves. They're the only bits of evidence we have that can tell us about themselves that are concrete and sure. There is nothing else written about the Stepney Hoard that is not conjectural or based on hearsay or is a conclusion derived from evidence one or two steps removed from the coins. The evidence of the coins points to one numismatic conclusion that everyone seems to agree on: the contents of the Stepney Hoard are skewed towards high grade and rare varieties.

The Stepney Hoard does not look like an emergency hoard, a group of coins rapidly withdrawn somewhat randomly from circulation. It also does not resemble a savings hoard, a group of coins slowly withdrawn from circulation over time that is skewed towards high value pieces (not heavy weight ones, weight did not equal value in coppers as Massachusetts found in 1788 and Damon Douglas did in 1968). How much value a group of 200 coppers and halfpence might have had in 1786-1790? Not much. It wasn't even worth a whole lot when it was sold to Bryant and Hessberg. It doesn't look like a collection either because it does not include things it should and has too many things it shouldn't: not enough lower grades and commons and duplicates but too many high grades and rare varieties.

If Stepney wasn't one of the two classic kinds of hoard, it must have been part of a bigger collection at one time. This collection was put together anytime from the late 19th to the first third of the 20th century. It included a sophisticated collection of Connecticuts with some New York and Vermont coppers, but it concentrated on Connecticuts. It may have been divided up among heirs, it may have been divided up among purchasers. The split was somewhat logical and showed some numismatic experience, the Stepney owner mostly taking coins that looked high grade and ones that were known to be rare. He also took other, lower grade pieces, maybe to balance the rest or because he had to. Then, he schlepped the coins down to Stack's and made up the kettle find story as a cover to conceal their origin. Stack's was convinced and so was Breen.

Whose collection might it have been originally? Could it have been part of Hall's? Brand got part of Hall's, so did Shumway, but so did Albert Holden. No one got it all. And we know that Hall didn't make all his Connecticuts PDVs, either. It could just as easily have been some one else's collection that was split up, someone whose name we don't know. If I seem to be speculating, now, it's just because I like my explanation better than anyone else's.

Comment: Breen and Mossman both say that the value of the Stepney Hoard in the late 1780s would have been slightly under two dollars.

25. Dan Freidus, January 26, 2004 10:11 pm.

Mike wrote "...The absence of New Jersey or Massachusetts coppers from the hoard is troubling for supporters, especially if it is to be dated to 1788, but restricted circulation patterns might explain this..."

However, if those coins had held their value, couldn't this be a selective emergency hoard in the sense that coins that couldn't be used at close to what had recently been their value were overvalued by an owner and therefore the owner refused to spend them but cached them until they recovered their value?

That asked, I do lean more towards a collection, but most likely a bit earlier than Mike suggests. Could it really have been possible to build this collection near the turn of the century and get this quality without acquiring coins for which we could now trace a provenance? Even then many, if not most, of the coppers of this quality were mostly in the hands of serious collectors.

26. Ray Williams, January 26, 2004, 10:26 pm.

How many plated appearances of CT coppers occurred in the 1800s? Until a decade or so ago, modern dealers would dispose of auction tickets in the hopes of keeping the customer from knowing how much was paid for the coin.

27. Jeff Rock, January 27, 12:15 am.

Maybe Neil Rothschild or Robert Martin could provide a better estimate on this, but other than the illustrations of the Connecticut coppers in Crosby's book, I can only recall a half dozen or so Connecticut coppers that were plated in ANY numismatic sale prior to the 1890s. There simply weren't too many collectors of the series at the time (Dr. Hall being the big exception), and the prices were low enough that it wouldn't have been financially feasible to plate a Connecticut...indeed many sales actually group lotted the coins and they sold for so much apiece (usually under 25 or 50 cents a pop!). The argument that the coins would have been plated doesn't seem to hold up to me, but Michael's argument that it is part (but not all) of an early collection does. Another part of the Dr. Hall set would be quite interesting....but given the time that it came to light, it could conceivably have been something in the Brand collection (either part of the Hall set or something completely different) that went through B.G. Johnson and didn't end up at New Netherland's like much of the other material, and instead found its way to Stacks....

Comment: the last part of this posting is unlikely. The Brand material handled by Burdette G. Johnson was available to Eric P. Newman, Johnson's close friend, attorney, and (after Johnson's sudden fatal heart attack on a trolley car in 1947) executor. Yet the Stepney Hoard was new and surprising material to Newman when Breen came across it at Stack's.

28. Phil Mossman, January 27, 2004, 7:34 am.

Mike wrote "...The absence of New Jersey or Massachusetts coppers from the hoard is troubling for supporters, especially if it is to be dated to 1788, but restricted circulation patterns might explain this..."

This is an interesting point. I have a number of contacts among metal detectionists and I have only heard of ONE New Jersey found in middle Connecticut. I find this odd. New Jerseys didn't seem to have penetrated Connecticut - yet there are many Connecticuts in New Jersey finds. This statement must be interpreted with care due to the immense sampling error.

29. David Palmer, January 27, 2004, 8:58 am.

If you look at how many Connecticuts were struck over New Jerseys, versus how many New Jerseys were struck over Connecticuts, I think you have your answer. Lightweight (by comparison, if

nothing else) moved around more freely than the “true” weight pieces, for any number of reasons. OR did the Machin’s operation really just get hold of a large number of Connecticut and overstrike them?

30. Ray Williams, January 27, 2004, 9:35 am.

As a personal observation, I have not seen a Connecticut struck on a New Jersey Copper yet. I don’t think that the weight of the contemporary coppers meant as much to their value as did the design. The intrinsic value of the copper, in the best of copper coins, did not approach the value the coin represented.

Mike Hodder brought up an interesting observation... do we know that Machin actually struck any counterfeits at his Mills? Other than a contract with the Vermont operation, we don’t have much to talk about. The Ryder 13 Vermont mule does come to mind as something to discuss. If Machin was making legitimate Vermont Coppers (as a subcontractor), it could very well be that the Ryder 13 was made at Machin’s Mills and they accidentally used a counterfeit reverse die by accident. This would then mean that Machin had counterfeit dies available at his facility.

BUT, there are a LOT of Ryder 13s out there and it’s difficult to believe that Machin would have made this error and not discovered it and corrected the problem. Thousands of these were hand struck. Possibly a later counterfeiter had obtained these two dies and this was all he had to work with...

31. David Palmer, January 27, 2004, 10:33 am.

Ray, I believe you make part of my point, in that as far as I know, there are no Connecticut struck over New Jerseys. But there are MANY New Jerseys over Connecticut. Not all overstruck Connecticut were done by “Machin’s” dies, correct? So....where does that lead us? Were Connecticut used as a planchet, due to their light weight, or their ease of acquiring, or in some clandestine deal with the coiners? It is easier to use ready-made planchets, than to roll your own copper, and cut them out. Part of the reason is that they were more plentiful, probably circulated throughout the lower states (for a short time), at least, and therefore were more available. New Jersey’s would tend to stay in New Jersey, and possibly eastern Pennsylvania to New York City, or so. I do not suggest that each copper was weighed and found to be wanting, but I think merchants would have figured out they weren’t of proper weight fairly quickly. IF that is the case, they would want to be rid of them quickly, and pieces like New Jerseys would be kept longer.

32. Michael Hodder, January 27, 2004, 11:40 am.

What does weight have to do with how well a copper coin was accepted in the marketplace or not? When the crash came low weight Connecticut dragged high weight Massachusetts down the tubes with them. Damon Douglas makes a similar point in his New Jersey manuscript. Coppers circulated as long as the public was confident someone else would accept them in commerce when the time came. The coppers market crashed when public confidence in it crashed.

Comment: the posters here are struggling with the difficulty of what an overstrike means. Is it evidence of circulation patterns? Or is it something different? Overstrikes to a certain extent ARE evidence of circulation patterns, but in the case of New Jersey overstrikes we have to remember that there was an additional incentive to ship your Connecticut coppers to New Jersey and overstrike them with New Jersey dies – New Jersey coppers were the only coppers that were a legal tender, so the only coppers that still had value after the August 1789 copper panic. There are good reasons to overstrike Connecticut with New Jersey dies: it makes a coin legal tender. Overstriking New

Jersies with Connecticut dies would be a stupid thing to do, although it's not totally impossible; e.g. a Connecticut coiner might make a trial strike to set up the dies, and just happen to have a New Jersey in his pocket. That's why a Connecticut overstrike on a New Jersey undertype is so far unrecorded.

33. John M. Kleeberg, January 27, 2004, 4:27 pm.

In Stack's sale of June 1994, lot 84, there was 1787 Miller 32.8-aa that was part of a hoard of 63 Connecticut coppers found in a barn in Cambridge, Massachusetts. Provenance: Dr. Thomas Hall – Hillyer Ryder – Frederick Charles Cogswell Boyd – John J. Ford, Jr.

I looked through Dr. Hall's later notes on Connecticut, of which Bob Martin had a photocopy that he very kindly allowed the ANS to photocopy, but I found no discussion about this. I'd love to learn more about this hoard.

34. Mike Hodder January 27, 2004, 5.40 pm.

Me, too, John. That's why I published the annotation I found on the round ticket that came with the coin, in the hopes someone would read it who knew something about this barn hoard.

By the way, the second paragraph of bumpf I published in the lot description was my interpretation of the Hall notes on 32.8-aa. Had he said anything about the hoard in his notes I'd have pounced on it.

Readers will be interested to learn that there seems to be more than one original copy of Hall's notes. I'll be seeing it in the next few days and will report back with how it compares to the one in the Connecticut State Library, the source of the copy John mentions that ANS has via Bobby Martin.

Comment: the second example of Hall's notes that Mike Hodder mentions turned out to be the example of William Wallace Hays, which was in the John J. Ford, Jr., Library and auctioned by George F. Kolbe on June 1, 2004, lot 528; see the auction catalog for a full and very helpful description of this item, based on Mike Hodder's examination of it.

I. *Comparanda* (Other Copper Hoards).

With post number 34, we turn to the question of *comparanda*: are there other copper hoards of the period that we could compare to the Stepney Hoard, and decide if the Stepney Hoard is in line with them, or an out and out anomaly, and hence a collection? The Cambridge, Massachusetts hoard is so tantalizing – it seems to have such similar characteristics to the Stepney Hoard, yet we know only four things about it: where it was found, when it was found, the number of coins in the hoard, and the identity of one of the coins in the hoard. For a number of years I have been compiling an inventory of coin finds of the Americas, and by going through this inventory I find thirteen hoards (including the Stepney Hoard) of copper coins that make a useful basis for a discussion. The hoards are, with their find spots, arranged by the date of deposit, with a citation to the literature:

Canton, MA, 1737 (Relics 1876).

Elmsford, NY, 1740 (Queer 1895).

Philadelphia, PA, 1741 (Gaspar and Newman 1978; Newman and Gaspar 1978).

New York, NY, 1760 (Ha'pennies 1905).

Washington, NJ, 1785 (Jersey Farmer 1925).

Cambridge, MA, 1787 (Stack's 1994).

Stepney, CT, 1788 (Breen 1952, Mossman 1998).

Montclair, NJ, 1790s (Kleeberg 1995-96).

Danielson, CT, 1810 (Trudgen 2000).

Quebec City, Québec, 1837 (Bank of Montreal)(McLachlan 1889).

Chambly, Québec, 1837 (Chambly Barracks)(McLachlan 1885).

Delton, MI, 1862 (Heath 1900, Rice 1900, Kleeberg 1992, Bowers 1997, 50-51).

New Boston, CT, 1862 ("Aaron White Hoard")(Jones 1938, Breen 1952, Bowers 1997, 78-83).

These hoards can be related to times of war and financial crisis (the Philadelphia Highway Hoard excepted). The first two hoards, Canton and Elmsford, are tied to the high inflation during the War of the Austrian Succession (King George's War). The New York hoard appears related to the Seven Year's War (the French and Indian War). The cluster of hoards of 1785-90s – Washington, Cambridge, Stepney, and Montclair – are related to the Coppers Panic. The Danielson, CT hoard was deposited at the time of the financial crisis because of the closure of the First Bank of the United States and the War of 1812. Québec City and Chambly are tied to the Canadian uprisings of 1837. Delton and New Boston are related to the Civil War.

1. The Massachusetts Inflation of the early Eighteenth Century.

From 1708 onwards, Massachusetts paid its rising military expenses for the frequent wars with the French by issuing paper money. As the century proceeded, the inflation got worse. Massachusetts embarked upon two money reforms, replacing Old Tenor money first with Middle Tenor, and then New Tenor money. As it reformed the money, declaring that the paper currency that formerly circulated at, say, eightpence, was henceforth worth twopence, the currency began to take on the character of small change; and in the process, not only did it drive the gold and silver out of circulation (Gresham's Law), but even copper. Finally the Crown worked out a complete monetary reform to remove the paper money from circulation, paying Massachusetts in specie for the costs of the Louisbourg expedition and retiring the paper. Aware that the low denomination paper had driven not only the silver and gold out of circulation, but even the copper coinage, the Crown sent over a massive

shipment of halfpence and farthings to pay for the expedition and ensure an adequate supply of small change in future.

As the Massachusetts low denomination paper spread and leaked into the circulation of adjoining colonies, people circulated the paper and hoarded their copper. This explains the existence of two hoards of coppers, one from Massachusetts with a closing date of 1737 (thus it could have been deposited in 1737 or any time after that date), and a hoard of farthings and shillings from Westchester County, New York, closing in 1740.

2. The Philadelphia Highway Hoard.

The Philadelphia Highway Hoard of 1741, on the other hand, is a different story: those coppers were not hoarded because they were desirable, but rather because they were counterfeit. Presumably the counterfeiting ring was discovered, and the counterfeiters threw the coins in the river to get rid of the evidence.

3. New York, New York.

This hoard consisted of three pots containing 300 George I and George II halfpence, plus twenty guineas of the same rulers, found by workers excavating on the site of an old colonial mansion at 70th Street and the East River. Since no coins of George III are reported, the hoard may have closed before 1760, and so could be related to the military and financial turmoil during the French and Indian War. It is, of course, possible that the hoard did contain George III coins after all; if that were so then the hoard closed just before the Revolution. With the massive paper money issues of the colonies in 1775, coin soon disappeared from circulation, so it was difficult to assemble hard coin from circulation throughout the latter half of the 1770s.

4. Washington, Cambridge, Stepney and Montclair.

These four hoards resemble each other greatly not only by their dates of deposit, but also in their composition and in the circumstances where they were found. All four contain examples of the state coinages (Washington, Cambridge and Stepney contain Connecticut coppers, Montclair contains New Jersey coppers); three (Washington, Stepney and Montclair) contain counterfeit halfpence; two were in containers (a pot in the case of Washington, an iron kettle in the case of Stepney); two were found in (Cambridge) or below (Stepney) a barn.

This group can be considered “Coppers Panic” hoards; the Coppers Panic explains both why they were assembled and why they were not recovered. Unlike silver or gold coins, which have a high intrinsic value, we think of copper coins as a mere token coinage, with a stated value that is greatly in excess of their intrinsic metal content. This was not the case in the eighteenth century, however, when a *de facto* trimetallist system prevailed, with an attempt to provide close to a full value in the copper coinage. Examples of “full weight” copper coins are the heavy early large cents before 1795 or the huge Boulton cartwheel twopence of 1797. Even in the nineteenth century, when the idea of copper as a token coinage had taken hold, copper token issuers played up the intrinsic value of their products, with the motto, “Pure Copper Preferable to Paper.” During the Civil War, as paper money continued to depreciate, each of the metals was withdrawn from circulation when the value of the metal became higher than the value of the nominal coin: first gold was withdrawn, then silver, and finally copper. Although copper usually operates as a token coinage, sometimes the depreciation of the paper currency becomes so advanced (as in 1982) as to lead to the copper coins being worth more when melted for their metal content.

The hoarders of the 1780s, who regarded the coppers that passed through their hands in this “trimetallist” framework, chose to pick out and hoard the heavier varieties, which they thought would keep their value better. They miscalculated, however: for the Coppers Panic led to the temporary demonetization of all coppers, except for the New Jersey coppers, which were a legal tender. The hoarders helped bring on the Coppers Panic: by picking out the heavy coins and spending the lightweight counterfeit trash, they ensured that the circulating medium steadily worsened as 1789 advanced, until people chose to reject it all. The miscalculation explains why these copper hoards were not recovered: the hoarders thought better of their strategy and decided not to waste the effort in digging the coins up.

An exception may exist in the case of the Montclair Hoard. As mentioned above, this shows elements (holes, cancellation graffiti) of being a “reverse hoard,” an assemblage not of the desirable varieties but of those that were rejected. I proposed as a date of deposit for the Montclair Hoard the 1790s (a number of coins in the hoard are extremely worn), and suggested that it was the rejected coins in the till of the company store operated by Israel Cranes for the quarry workers. In this case the hoard was not deposited before the Coppers Panic, but later, in the 1790s.

5. The Danielson, Connecticut Hoard.

Gary Trudgen proposed as the date of deposit “the first half of the nineteenth century” (Trudgen 2000). The latest dated coin in the hoard, a Liberty and Security penny of 1795, is well worn, hence the choice of the nineteenth century date. As a working hypothesis I have been using ca. 1810 as the possible date of deposit, because the closure of the First Bank of the United States and the outbreak of the War of 1812 gave rise to the hoarding of small change, so that private merchants and municipalities issued small change notes. The other periods when copper was hoarded in the nineteenth century (during the Hard Times that followed the Panic of 1837 and during the Civil War) are much later and hoards formed then would have a representation of nineteenth century issues (large cents, hard times tokens), and not the predominance of coins of the Confederation period that is characteristic of the Danielson hoard.

The Danielson hoard, with twelve Connecticut coppers among is a useful *comparandum* to Stepney because it shows that hoarders did, indeed, consider Connecticut coppers a desirable object to hoard.

6. The Bank of Montreal and Chambly Barracks.

These two hoards, both reported by McLachlan (McLachlan 1885, 1889), are accumulations of Canadian tokens that circulated until the token coinage was demonetized and all confidence lost during the 1837 uprisings. They resemble Stepney and its siblings of the 1780s in that the hoarder at one point thought the items had value, so saved them; the items lost their value during the crisis, and so the hoarder chose not to recover them. The Bank of Montreal hoard was huge—12,000 coins, of which McLachlan saw 5,000. As McLachlan wrote, “The hoard, then, was the contents of some commodious till when the hucksters edict went forth declaring the bulk of the currency of Canada illegal.”

7. Delton, Michigan and New Boston, Connecticut.

These last two hoards are examples of how in times of stress people will hoard copper if they cannot obtain silver and gold. Delton, Michigan is a group of Canadian large cents buried under a woodpile near the Chicago, Kalamazoo and Saginaw Railroad, with a date of deposit of 1862. The latter hoard is the hoard of nearly 100,000 copper coins accumulated by the eccentric lawyer Aaron White. Both

correspond to some of the darkest days of the Civil War, when the greenbacks circulated at a great discount to gold and people were willing to hoard metal money of any kind.

8. Conclusion.

This examination of *comparanda* shows that, contrary to what was suggested in posts 14 and 21, the hoarding of copper is neither illogical nor egregious. In times of stress people will hoard copper if they can obtain nothing else; in the 1780s, hoarders distrusted much of the copper coinage, and picked out the desirable coppers as a hedge against collapse. Often they miscalculated, their hoards were overtaken by events, and so they chose not to recover them. The Stepney Hoard is not out of line with what we know of other hoards of the period. It does have two things that need to be explained: the lack of coins that we know were common in circulation (such as Nova Constellatio and New Jerseys), and a peculiar selection pattern among the Connecticut coppers. The first problem can be solved by my argument that the Stepney hoarder was picking out of circulation only "head type" coins. The second part will be addressed in parts II and III, particularly the latter, where the weights will be examined.

II. Predicting the Number of Varieties in a Coinage from those Represented in a Hoard.

Researchers in ancient and medieval numismatics have devoted much study to predicting the total dies used in a coinage based on the die varieties represented in a hoard (Casey 1986, Esty 1984). Esty proposed using Good's formula, used for observation of animal species such as bird watching, according to which the coverage of a random sample is

$$C = 1 - (N_1/n)$$

where C is the coverage, N_1 is the number of varieties represented exactly once, and n the number in the sample. N_2 is the number of varieties occurring in a hoard exactly twice, N_3 exactly three times, and so on. Esty published a formula to determine the standard deviations, which tells us within what range the coverage falls, namely

$$1 - (N_1/n) \pm z \sqrt{\{[(N_1 + 2N_2)/n] - (N_1/n)^2\}/n}$$

where z is 1.96 for a 95 percent interval, 1.65 for a 90% interval, and 1.00 for a 68 percent interval. These formulae work if n is large and N_1/n is not very near 0 or 1. Note that this formula is not applicable to the Bank of New York Hoard of Fugios, for in that instance N_1/n equals zero.

Applying Good's and Esty's formulae to the Connecticut coppers in the Stepney Hoard gives interesting results. In the Stepney Hoard, $n = 105$; $N_1 = 54$; $N_2 = 26$; $N_3 = 21$; and $N_4 = 4$. If we apply these formulae to all the Connecticut coppers, the Stepney Hoard predicts 214 varieties, with upper limits of 250 with 68% confidence, 284 with 90% confidence, and 300 with 95% confidence. These formulae confirm rigorously what Ray Williams and Mike Hodder argued: the Stepney Hoard *is not* a random selection of all Connecticut coppers. A truly random selection would do better at predicting the total number of Connecticut copper die varieties, which is now at 350 plus varieties (Mossman in 1998 said that there were 357 varieties [Mossman 1998, 1830]; Mike Ringo and David Palmer have each subsequently discovered new varieties).

What, however, if the Stepney Hoard is not a random selection within the Connecticut coppers universe, but *is random* within a sub-universe? After examining the weights, I concluded that there were *two* selection processes going on with the Stepney Hoard:

(1) the hoarder is excluding all non-head type coins.

(2) the hoarder is preferring coins with heavy weights.

If the hoarder prefers the coins with heavy weights, the hoarder will be reducing the universe of potential die varieties in the hoard, since we know from Phil Mossman's studies that there are a

number of Connecticut mints that produced egregiously underweight coins. To control for this selection process, I first excluded all 1788 Connecticut copper varieties from consideration; this reduces the sample in the Stepney Hoard (n) to 101 coins; $N_1 = 52$; $N_2 = 24$, with no effect on the other values. I next confined my counting of die varieties to three mint operations: the Company for Coining Coppers, James Jarvis, and Benjamin Buell. Breen's *Encyclopedia* assigns 265 die varieties to these mints. Under Good's formula, the Stepney Hoard is predicting 206 varieties for this group. Under Esty's formula the upper limits are 240 with 68% confidence, 273 with 90% confidence, and 289 with 95% confidence. Thus, although the Stepney Hoard is far off in predicting the number of die varieties for these three mints, it is still within the range. If we could assemble a vast number of hoards compiled from the same population of Connecticut coppers, they would describe a bell curve with the peak near 265 varieties. The Stepney Hoard would appear off to the left on that bell curve – but so long as we confine the universe to CCC/Jarvis/Buell, Stepney is still on that curve. If the population is all Connecticut varieties, the bell curve peaks at over 350 plus varieties, and the Stepney Hoard does not appear on the curve at all.

Some of the difficulties of analyzing a hoard of Connecticut coppers can be understood by analogizing to other coinages. Let us conceive of a random hoard of 1833 half dollars. It should predict the number of varieties identified by Al Overton (fifteen). But what would happen if we were to require the hoard to predict counterfeit varieties as well? This would give a very different result: Keith Davignon identified twenty-three counterfeit varieties for 1833. There are fifty percent more counterfeit varieties for 1833 half dollars as genuine varieties! With half dollars, it is not difficult to identify the counterfeits and exclude them from our calculations – most of the counterfeits are not made of silver. With Connecticut coppers, it is extremely difficult for us to exclude the counterfeits – all the coins are of copper, often crudely made and lightweight. Yet it is possible the contemporaries knew something we do not, and so they excluded pieces that they regarded as counterfeit and not the issues of legitimate mints by some rationale that is not known to us, just as our hypothetical hoarder of half dollars excludes the pieces that are not made of silver. Requiring the Stepney Hoard to predict 350 plus varieties would be like requiring our hoard of 1833 half dollars to predict 38 varieties: it will not do that because the hoarder excluded many of those varieties on the grounds that they were not legitimate coins.

The concept of hoards predicting the number of varieties can be restated in the following way. Let us imagine the universe of all random Connecticut hoards. Now some of the hoards will predict fewer than 350 plus varieties; and some will predict more. But if we can assemble enough of them and record them all, the result should be a bell curve that will predict around 350 plus. This bell curve does not include the Stepney Hoard, because the Stepney Hoard is off too far on the left – at 206 varieties it way underpredicts the number of Connecticut varieties. The reason for that is because the hoarder is not selecting the coins from a 350 plus variety universe, but from a much smaller universe of Jarvis/CCC/Buell, because the hoarder regards those coins as legitimate and other coins as illegitimate, just as the hoarder of 1833 half dollars rejects the German silver counterfeits as illegitimate. The Stepney Hoard is not random within the 350 plus variety universe. If, however, we were to construct a bell curve of random hoards just consisting of Jarvis/CCC/Buell coins, we would have a bell curve that peaked at around 265 varieties. Stepney, with 206 varieties, still falls to the left side of the bell curve, but this time it is part of the curve – it is within the standard deviations that Esty's formulae lead us to expect.

The Stepney Hoard, in short, is not a random selection for all Connecticut coppers; but it is a random selection for the sub-set of Connecticut coppers issued by the Company for Coining Coppers, James Jarvis, and Benjamin Buell.

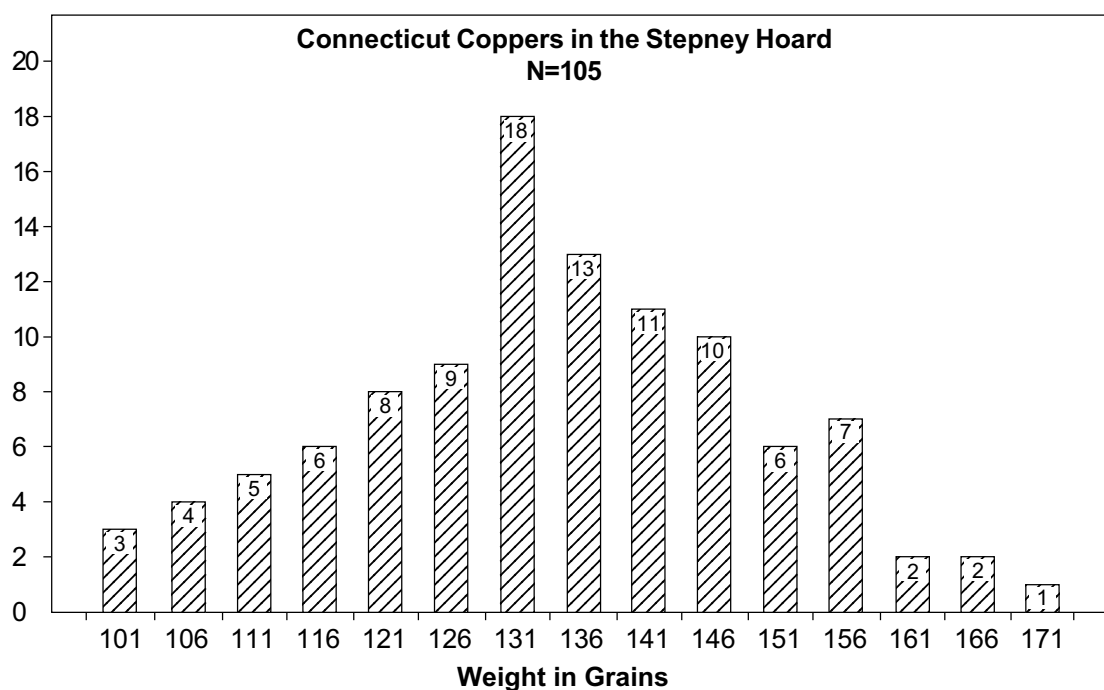
Good's formula also tells us that the Stepney Hoard is not a collection. The ideal collection has one and only one example of each variety; thus $N_1/n = 1$. Alternatively, a collector might try to

assemble all varieties in duplicate, driving that value towards zero. This is one rationale for not applying Esty's formula when that value approaches 1 or 0. Whatever happens, a collection will not have a value at the midway point. Yet the Stepney Hoard is nearly precisely at the midway point, with N_1/n at .51, so that the estimate of the coverage is 49%.

The Stepney Hoard is still skewed; it underpredicts the number of varieties from C.C.C., Jarvis, and Benjamin Buell. This is probably a result of the small sample size, which at $N = 101$ is not at the optimal size for predicting 265 varieties. Williams and Hodder are right that the Stepney Hoard is not a random sample if we look at it against the total universe of Connecticut varieties. If, however, we assume a second selection process, which excluded Connecticut mints that produced lightweight coins, the Stepney Hoard is indeed a random sample of those varieties, and therefore a hoard, not a collection.

III. The Weights of the Stepney Hoard.

Mike Hodder's argument that the Stepney Hoard is neither a savings nor an emergency hoard inspired some further research on my part, for my opinion is that the Stepney Hoard is, indeed, a savings hoard. But how can we identify a savings hoard? Here Casey makes a useful suggestion: hoarders favored, if they had time, the selection of heavier coins from circulation (Casey 1986, 56). A savings hoard can be distinguished by its preference for heavy coins; in the case of an emergency hoard, the hoarder did not have the chance to select the coins, so this skewing of weight does not occur. This suggestion led to the construction of a frequency table (see chart) of the weights of the Connecticut coppers in the Stepney Hoard and the calculation of the mean weight. Robert Martin discovered that when Breen weighed the coins of the Stepney Hoard, he used a defective scale that weighed the coins three quarters of a grain too light. (Another instance of an incorrect weight is coin number 130, where Breen copied the coin number instead of the grain weight; Martin has corrected this error too.) Martin provided an appendix to Mossman's article on the Stepney Hoard with electronic scale weights of Stepney coppers. Where the actual weight is known, this has been used; where only Breen's reported weight is known, I have corrected overall for the "Martin shift" by adding three-quarters of a grain to the weights. The mean weight of the Connecticut coppers in the Stepney Hoard is 136.19 grains (see chart).



If the weights were truly random, they would form a bell curve. Here, we have a bell curve as the basic shape, but with a very skewed result. The number of coins that weigh 131 to 135.9 grains (eighteen) is double the number of those that weigh 126 to 130.9 grains (nine). The curve has a long “tail” to the right, towards the heavier coins. Moreover, rather than the even symmetry around the peak that we have with a bell curve, the curve is asymmetrical; it is not until we reach the interval of 151 grains that the number of coins drops below the level of those in the interval of 126 grains. How can this shape be explained?

When the hoarder begins to assemble the accumulation, the population on offer is all the Connecticut coppers in circulation in the late 1780s. If we could isolate out the various mints (plus certain special phenomena, such as problems with rolling strip [Mossman 1991]) and record enough observations, the frequency table of the weights of these mints would be a bell curve. The hoarder starts with this bell curve, which corresponds to the basic shape of the curve we have now. The hoarder then selects for weight at or near the 130 grain threshold. This explains the unusual peak at 131 grains. Compare the Stepney chart to Mossman’s Chart 22, small letter Connecticut varieties from the Jarvis mint (Mossman 1993, 290). The peak occurs at the same interval (the chart is constructed to be immediately comparable to Mossman’s chart), but the peak is much higher on the Stepney chart when compared with the 126 grain interval – double the level on the Stepney chart, compared with three-eighths higher on Mossman’s chart – an increase of 100% versus an increase of 37.5%. Mossman’s chart is also more symmetrical: the “shoulders” of 126 and 141 grains, 121 and 146 grains match up, whereas they do not on the Stepney chart.

The conclusion is that the Stepney Hoarder applied two selection processes:

- (1) the hoarder preferred head types to non-head types
- (2) the hoarder picked out heavy weight coins, apparently using a threshold of 130 grains.

By picking out the heavy weight coins, the hoarder reduced the available universe of die varieties substantially. That in part explains why the Stepney Hoard is not a better predictor of the total number of Connecticut die varieties. The hoarder also seems to have known which Connecticut mints to avoid.

It is interesting to note that although the hoarder used weight as a selection criterion with Connecticut coppers, but had such great confidence in counterfeit halfpence that weight appears to have been disregarded in their selection. Although one counterfeit halfpenny weighed 165.75 grains, there was one that was as light as 71.75 grains.

Why was the hoarder so careful about selecting Connecticut coppers, yet so careless about counterfeit halfpence to accept one weighing as light as 71.75 grains? A strong preference for counterfeit halfpence and George II/George III head types would partially explain that, but there is another reason. We must put our minds back to 1787, 1788, and 1789. Connecticut coppers in 1787 and 1788 would be the bright orange color that we know from the Gallery Mint Museum products. Just as people were more willing to accept dirty paper notes with many pinholes, but distrusted fresh, clean new notes as counterfeit (dirty notes have passed through the hands of many smart merchants, so are less likely to be counterfeits), so dirty, dark, heavily patinated and worn coppers inspired more trust than bright orange Connecticut coppers. So the hoarder would accept the worn counterfeit halfpence readily, but would put the Connecticut coppers through a second selection process.

There is much literary evidence from the 1780s (usefully assembled by Mossman [Mossman 1993, 222, 229, 237, 239]) that people were concerned about the weights of their coppers, and chose to reject the underweight coppers. The weights of the Stepney Hoard show us a hoarder picking out the heavy coins from circulation.

If this were a collection, the weights would be closer to a bell curve. Collectors are interested in weights, and will occasionally buy a coin if the weight is unusual, but it is generally not a criterion for collectors. It is, however, a criterion for hoarding.

It is interesting to note that Mossman's Chart 22, with 610 examples, is not a perfect bell curve – it is slightly skewed as well. This may be the result of hoarding. The better coins – the coins that will be separately listed in auction catalogs, with their weights – will be the coins from hoards. If hoarders of Connecticut of the 1780s chose to pick out the coins that weighed above 130 grains, these hoards will have skewed Mossman's sample and explain the skewed shape of his curve.

Some questions still remain. One is our old friend 4-L. This variety is known both weighing above 136 grains – in fact, it forms a high peak in one of Mossman's charts – and in a lightweight version. If the hoarder preferred heavy coins, why are there no 4-Ls in the hoard? Is it because the hoarder tested one 4-L and found it wanting, and decided to reject all coins of that type without weighing them? Is it because the coins were minted relatively late in 1788, after the hoard was closed? Is it because heavy 4-Ls are scarce?

When did the hoard close? In his 1952 article, Breen argued very convincingly that the hoard must have been deposited early in 1788, or it would contain more Connecticut copper varieties of that year (it only contained four 1788 Connecticut coppers). Yet the hoard also includes the triple leaves 1787 die varieties 9-D, 9-E, 9-R, 11.1-E and 11.2-K. In his *Encyclopedia*, Breen assigns these varieties to Benjamin Buell and states that they were manufactured in a short period in April 1789. This gives us a date of deposit between April and August 1789, rather than early in 1788. Perhaps the hoarder chose to reject most 1788 Connecticut coppers because they were lightweight. Or perhaps Breen's date for the Benjamin Buell mint is incorrect. The date of deposit is extremely tantalizing, for it might clear up much about the emission sequence of the various Connecticut mints.

IV. Conclusion.

The Stepney Find should be accepted as a genuine hoard. Every objection raised by its critics can be answered. The spread of varieties, although illogical as a selection from the total universe of some 350 plus Connecticut die varieties, is explicable if the universe is reduced to the CCC/Jarvis/Buell varieties. Ned Barnsley's reason for doubting the hoard – that coins could never be preserved in such good condition if buried in a barn – has fallen by the wayside in light of Thomas Kays' observations of 1998 and posting number 15 in the January 2004 Stepney debate. The doubts expressed in postings 14 and 21 – why hoard coppers? are answered by the numerous *comparanda*, other hoards of people who did exactly that. What demonstrates conclusively that the Stepney Hoard is, indeed, a hoard is a frequency table of the weights, showing that the hoarder preferred heavy coins, selecting those that weighed more than about 130 grains. We should accept the Stepney Hoard story – an iron kettle found beneath an eighteenth century barn in Stepney, Connecticut, in 1950 – as true in all important respects.

Even so, the Stepney Hoard still raises the question of "Yes, but..." Yes, it is a hoard, but it has undergone two selection processes (selecting head types and picking out heavyweight Connecticut coppers) that have skewed the sample. Without the debate we would not have the more nuanced picture of the Stepney Hoard, so that when we describe it we say, "A hoard, yes, but a special hoard."

The Stepney Hoard debate raised many important questions about this hoard. Why no New Jerseys? Why no Nova Constellatio? Why no 4-Ls? Is the spread of varieties too extensive to occur as a random selection? Isn't hoarding copper an irrational strategy? Is there a pattern to the weights? To what extent did state coinages circulate beyond the borders of the state where they were issued? The debate also touched on many issues in hoard studies that researchers in ancient

and medieval numismatics have grappled with as well, often finding solutions that can be usefully applied to the coinages of the Confederation period. The answers to these questions help us unravel one of the most perplexing coinages of all time – the complex issues of the Connecticut mints.

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